TA
467
.U5

LIBRARY OF CONGRESS
00013559466

THE LIBRARY OF CONGRESS
1800

Class TA467
Book .U5

REPORT OF TESTS

OF

ANTI-CORROSIVE AND ANTI-FOULING

PAINTS.

SECOND SERIES.

NAVY DEPARTMENT,
BUREAU OF CONSTRUCTION AND REPAIR.
SEPTEMBER, 1886.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1886.

REPORT OF TESTS

OF

ANTI-CORROSIVE AND ANTI-FOULING

PAINTS.

SECOND SERIES.

NAVY DEPARTMENT,
BUREAU OF CONSTRUCTION AND REPAIR.
SEPTEMBER, 1886.

THE LIBRARY OF CONGRESS

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1886.

4518 T P

TA 467
.U5

THE LIBRARY
OF CONGRESS

330-01

TESTS OF PAINTS.

PHILADELPHIA, PA., *September* 1, 1886.

SIR: In the test of paints (second series), in accordance with Navy Department circular of December 16, 1884 (copy of circular inclosed, marked A), commenced by Naval Constructor Samuel H. Pook, U. S. N., and completed by me under instructions from Bureau of Construction and Repair, dated June 20, 1885 (inclosed, marked B), and Navy Department order of 9th of July, 1885 (inclosed, marked C), I have endeavored to report the facts relating to each composition furnished.

Upon assuming charge of the tests, the plates at Key West, Norfolk, and League Island, Philadelphia, Pa., had been painted and immersed, leaving the plates at Portsmouth, N. H., and the bottom of the U. S. S. Speedwell to be painted and immersed.

The plates were cleaned to the bare steel by burning, scraping, and immersion in acid and water, then washed and dried.

The samples were put on according to the directions furnished by the manufacturers or agents.

In the test upon the U. S. S. Speedwell, the bottom was cleaned to the iron, and where any scale appeared it was removed: she was then painted in cross sections, the samples which were forward and aft on starboard side were put on amidships on port side and those amidships on starboard side were put on at the ends on port side, giving to each sample two positions. The above-named vessel was taken out of dock September 4, 1885, put in commission October 6, 1885, and out of commission January 8, 1886, steaming about 338 miles on 26 different dates (see inclosed memorandum D); the balance of the time to date of inspection, July 8, 1886, she remained fast to the wharf at the navy-yard, Norfolk, Va.

When the sections upon both sides of this vessel were examined there was so little difference that only one illustration was deemed necessary.

Appended is a tabulated statement of the test made at Key West, Fla.; Norfolk, Va.; League Island, Philadelphia, Pa.; Portsmouth, N. H.; and upon the U. S. S. Speedwell only one examination was made (completion of tests). In these tables it will be noticed that in the test at League Island no weight of plates before painting is given, as none could be found on record. At Key West the first thirteen are placed in the order of merit; at Norfolk, Va., the first fourteen are in the order of merit: at League Island all are so placed; at Portsmouth, N. H., the first fifteen are placed in the same order, and on the U. S. S. Speedwell the first seven are in the order of merit. I also append photographic illustrations of every sample at all of the stations (except League Island) and on the Speedwell. In these illustrations care was taken to have them represent a fair average of the sample.

I do not consider that the painting of plates and putting them in crates is as good a test of the qualities of the paint as to have it on an open surface, as will readily be seen by reference to plate 14, which represents one of the crates as taken from the water at the navy-yard at Norfolk, Va.

All compositions which require heat to produce a fluidity sufficient for application were found very difficult to lay on smooth.

While I was waiting for the docking of the Speedwell at the navy-yard at Norfolk, Va., the Albatross was placed in the dock and cleaned and painted. I observed that there was very little fouling upon her bottom, but that the paint was well worn, and upon inquiry of her commanding officer, learned that she had been painted over a year, and that she had been in fresh water twice during the time, and that she was painted with red lead and white zinc mixed. I mention this as there were no samples of this composition in our tests.

The plates at League Island were immersed March 30, 1885, and removed from the water December 10, 1885

Plates at Key West, Fla., immersed April 24, 1885, and removed January 19, 1886.

Plates at Norfolk, Va., immersed May 23, 1885, and removed from water February 16 and 17, 1886.

Plates at Portsmouth, N. H., were immersed July 31, 1885, and removed from the water April 6, 1886.

U. S. S. Speedwell undocked September 4, 1885, and redocked July 8, 1886.

Very respectfully, your obedient servant,

WM. H. VARNEY,
Naval Constructor, U. S. N.

CHIEF OF BUREAU OF CONSTRUCTION AND REPAIR,
Navy Department, Washington, D. C.

A.

[Circular.]

TEST OF PAINTS, SECOND SERIES, SUGGESTED BY THE NAVAL ADVISORY BOARD.

The Navy Department will test paints, anti-corrosive and anti-fouling compositions, for the wetted surfaces of steel vessels. Samples are invited from makers.

These experiments are undertaken in view of the desirability of obtaining the most efficient anti-fouling and anti-corrosive paint or compositions for covering the wetted surfaces of steel vessels.

Makers or owners of such materials are invited to send samples to the commandant of the navy-yards at New York, Portsmouth, N. H., League Island, Philadelphia, Pa., and Norfolk, Va., before February 1, 1885. Each sample is to be sufficient to cover a surface of 75 square feet, except the sample to be sent to Norfolk, which is to be sufficient to cover a surface 200 feet in area. The samples are to be marked "Paint Samples for Test," with the maker's name upon the package.

In return, the Navy Department guarantees to each person furnishing samples a complete official report of the result of the experiments.

Nothing in the trials or reports shall be considered binding on the Department to accept any of the material for use.

The tests will be made under, as nearly as possible, the same conditions that occur in practice.

The test plates will be of steel of the same quality as that used for outside plating of vessels, each to be 2 feet 6 inches by 3 feet, and to weigh 5 pounds per square foot.

The plates will be carefully cleaned, dried, and weighed, then covered on both sides with paint or composition, and weighed again. The plates will also be weighed at each inspection.

Two plates will be covered with each kind of paint, and will be immersed at Portsmouth, N. H., League Island, Philadelphia, Norfolk, Va., and Key West, Fla., and each sample of paint will also be applied in two places to the bottom of some United States vessel, and will be inspected at the same time as the plates. The makers or owners of paints will please furnish instructions as to the application of their paints, which will be carefully followed. All communications on this subject should be addressed to Naval Constructor S. H. Pook, inspector of paints, League Island navy-yard, Philadelphia, Pa.

The plates will be placed in a cage, insulated from one another, and so buoyed as to be always totally immersed, care being taken that no galvanic action can be set up with adjacent matter.

If possible, the cages will be moored in positions and currents in which vessels usually lie in the places above mentioned.

The total period of immersion of the test plates will be eight months, and they will also be examined at the end of four months.

No sample will be tested that is not delivered by February 1.

WILLIAM E. CHANDLER,
Secretary of the Navy.

NAVY DEPARTMENT,
December 16, 1884.

B.

No. 45.]

NAVY DEPARTMENT,
BUREAU OF CONSTRUCTION AND REPAIR,
Washington, D. C., June 20, 1885.

SIR: In order to proceed understandingly, and with the strictest economy, in the "Tests of Paints, 2nd Series," as begun by the Naval Advisory Board, under the superintendence of Naval Constructor S. H. Pook, the Bureau desires a full and plain statement of the present condition of the work connected with these tests, what remains to be done to complete them, with the cost of the same to date, in detail, for labor and materials separately at each place where work has been done: also the probable cost for labor and materials to complete the work.

The constructor will please make such suggestions as will be actually necessary to comply with the Department's circular of December 16, 1885.

Orders will be sent to the commandant of the Norfolk navy-yard early in July to dock the Speedwell, and to have her bottom cleaned and painted with samples of the paint submitted, the work to be carried on under the supervision of Naval Constructor S. H. Pook.

You will please give such instructions as will insure all communications relative to the paint tests being of an entirely official nature.

Copies of all letters received on this subject will be furnished this Bureau, and all correspondence in answer thereto will be sent through it, in order that a complete and full record of all that transpires in relation to the matter in question may be on file.

The Naval Advisory Board, by order of the Department, has furnished the Bureau with the entire official correspondence relative to the second series of paint tests to June 11, 1885; but, to make it complete, a copy of Constructor Pook's appointment as inspector of paints is required, which please request him to furnish accordingly.

Very respectfully,

T. D. WILSON,
Chief of Bureau.

Commander WILLIAM WHITEHEAD,
Commanding Navy-yard, League Island, Pa.

C.

NAVY DEPARTMENT,
Washington, July 9, 1885.

SIR: In addition to your present duties you will perform the duties of inspector of paints, and in their performance you will be governed by such instructions as you may receive from the Bureau of Construction and Repair.

Respectfully,

W. C. WHITNEY,
Secretary of the Navy.

Naval Constructor WM. H. VARNEY, U. S. N.,
Philadelphia, Pa.

D.

[Memorandum.]

COMMANDANT'S OFFICE, *August* 18, 1886.

The log of the Speedwell shows that she was put in commission on the 6th of October, 1885, and out of commission January 8, 1886, between which dates she was under way on 26 different dates, steaming in all about 338 miles; 17 of the above dates the Speedwell was employed in making short trips in the harbor.

O. E. LASHER,
Lieutenant, U. S. N., United States navy-yard, Norfolk, Va.

Forwarded.

GEORGE BROWN,
Captain Commandant.

United States Naval Station, Key West, Fla.

[Plates immersed April 24, 1885; inspected January 19, 1886. Time immersed, 8 months and 13 days.]

Name of maker or agent.	No. of plate.	Weight before painting.	Weight after painting.	Weight on inspection.	Condition when taken from water.	Condition of paint on removal of fouling.	Condition of plate on removal of paint.	Photograph plate.	Color of paint.
		Lbs. ozs.	*Lbs. ozs.*	*Lbs. ozs.*					
William B. Adams, esq., 225 West Fourteenth street, New York City, N. Y.	191 192	38 12½ 36 8	39 3 36 10	39 9½ 37 6½	Covered with a white scum, which washed off easily; branch coral had commenced to form.	Very good, but thin.	Excellent	Pl. 1, No. 191.	Lead color.
A. H. Smith, esq., 14 Vesey street, New York City, N. Y.	207 208	39 15 35 13½	40 4 36 4	42 8½ 38 2½	Covered with a white scum, which washed off; some branch coral forming; some moss.	Good except where blistered; a few small blisters ¾ inch across.	Very good; a few small rust spots ⅜ inch across.	Pl. 1, No. 208.	Black. Large black spots are a very thin flat shell of a brown color.
Frederick W. Devoe & Co., corner Fulton and William streets, New York City, N. Y.	119 120	35 4½ 34 8½	36 0 35 2	37 13½ 37 2	Covered with a white scum, a few hard thin shells, and small coral; a little moss.	do	Very good; a few small rust spots ¾ inch across.	Pl. 1, No. 120.	Pea green.
Protector Fluid Company, London (furnished by T. J. Lang, 119 Duane street, New York City, N. Y.).	95 96	38 7 41 2	39 2 41 10	40 9 44 2	Covered with a white scum; branch coral had commenced to form; a little moss.	do	Very good; a few small rust spots.	Pl. 2, No. 96.	
Janentzky & Weber, 1125 Chestnut street, Philadelphia, Pa.	175 176	37 11 38 3	38 4 38 14	40 1 40 13	Covered with a white scum; branch coral had commenced to form; a little moss. Large black spots on photograph are a thin shell, very hard.	do	do	Pl. 2, No. 175.	Vermilion.
P. K. Dumaresq, esq., 144 Greenwich street, New York City, N. Y.	247 248	34 15 34 15	35 12 35 10	37 3 37 5	White scum; branch coral had commenced to form. The large black spots on photograph are a thin hard scale resembling boiler scale, 2½ inches across.	Washed off in cleaning.	Very good	Pl. 3, No. 248.	White.
W. S. Sinclair, esq., 114 William street, New York City, N. Y.	271 272	38 2 36 8	39 2 37 2	41 7½ 39 9	Large number of coral shells; branch coral forming; large black spots on photograph, same substance as Nos. 247 and 248, but more of the surface covered.	Partially washed off in cleaning.	Fair; some large spots of rust.	Pl. 4, No. 272.	Dark drab.
Canton Paint and Oil Company, 160 Congress street, Boston, Mass	79 80	36 12 38 3	36 14 38 6	39 13½ 41 10½	Branch coral, white scum.	Paint nearly all worn off; a few blisters, largest ¾ inch across.	Fair; rusty where blistered.	Pl. 5, No. 80.	Do.
P. G. West, esq., 617 West Fourth street, Wilmington, Del.	87 88	38 6½ 39 3½	38 14 39 10	40 2 41 7½	do	do	do	Pl. 3, No. 87.	Flesh color.
Samuel Williams, esq., 181 South street, between Roosevelt street and James Slip, New York City, N. Y.	47 48	38 2½ 39 6	38 8 40 0	39 7 40 15	White scum, branch coral.	Many small blisters, about ⅜ inch across; paint fair.	Rusty and pitted where blistered.	Pl. 6, No. 47.	Brown.
H. Thompson & Co., 95 Merrow street, Walworth, London, S. E.	199 200	41 4 35 1	41 12 35 12	43 9 37 1½	White scum and branch coral.	Covered with blisters from ½ to 1 inch across.	do	Pl. 7, No. 199.	Red.
H. F. Taintor, esq., 281 Pearl street, New York City, N. Y.	159 160	37 5 40 7½	38 10 41 13	41 3 43 11	Little white scum. (Were it not for bubbles easily broken this plate would rate No. 7.)	Surface covered with fine blisters like bubbles.	Good	Pl. 8, No. 160.	Lead color.
Arthur H. Rice, esq., 24 Cliff street, New York City, N. Y.	223 224	39 11½ 38 10½	41 1 39 7	42 14½ 41 7½	Large number of coral shells; branch coral forming; large black spots on photograph are a thin hard scale resembling boiler scale. (See bottom p. 7.)	Partially washed off in cleaning.	Fair; some rust	Pl. 7, No. 224.	Dark drab.
C. E. Crosby, esq., No. 7 Nassau street, New York City, N. Y.	7 8	37 2 34 14	36 4 35 1	41 3 39 4½	White scum or mud resembling slacked lime; also coral formation.	No indications of any paint.	Very badly rusted and pitted.	Pl. 9, No. 8.	
J. W. & F. R. Hoard, Infantry Building, Providence, R. I.	15 16	39 8 41 2	40 0 41 6	43 10½ 45 9	do	Paint blistered	do	Pl. 9, No. 16.	Two samples: one red and one green.
Essex Paint Company, Essex, Conn.	23 24	38 3 40 11	38 8 41 0	41 7 44 7	do	Covered with blisters; very fine.	Badly pitted with very fine pits.	Pl. 6, No. 24.	Dark brown.
Hartman Le Doux & Maeker, 139 Pearl street, New York City, N. Y.	31 32	39 3 38 13	39 7 38 14	41 2 41 13½	Covered with coral, branch and shell.	A few blisters; a small amount of paint remaining indicating the color.	Fair; some pitting and rusting.	Pl. 6, No. 32.	Chocolate.
The Bridgeport Wood Finishing Company, No. 40 Bleecker street, New York City, N. Y.	39 40	36 8½ 39 3½	37 0 39 8	39 10 43 10½	Covered with coral, branch and shell. A large amount of shell.	No indication that there had been any paint.	Some pitting and rusting; a very little rust.	Pl. 10, No. 40.	Black.
Eclipse Oil Company, No. 50 South street, New York City, N. Y.	55 56	37 8½ 41 0	37 12 41 6	41 1½ 45 5	Speckled with coral, some thin shells resembling boiler scale. Foundation for branch coral.	Very little paint to be seen.	Some pitting and rusting.	Pl. 11, No. 55.	Do.
M. Hubbe, esq., 164 Maiden Lane, New York City, N. Y.	63 64	39 1 38 6½	39 2 38 10	41 8 41 7	Surface covered with coral specks.	do	Some small pits and a little rust.	Pl. 10, No. 63.	Dark brown.
Henry Devens, esq., Brattleboro, Vt.	71 72	41 2 40 4½	41 8 40 12	47 7½ 46 1½	Surface very foul, covered with coral.	No paint to be seen.	Surface covered all over with pits; condition of plate very bad.	Pl. 3, No. 71.	Chocolate.
The Elastic Paint Company, Room 15, No. 101 Washington street, Chicago, Ill.	103 104	39 10½ 38 13½	40 10 39 14	44 0 44 10½	Surface of plate very foul.	do	Badly pitted and rusty.	Pl. 2, No. 104.	Black.
New York Silica Paint and Color Company, 31 and 33 South Fifth street, Brooklyn, E. D.	111 112	35 4½ 34 8½	36 0 35 2	37 13 37 2	Covered with coral and a few oysters.	A very little paint to be seen.	do	Pl. 7, No. 111.	Crocus.

United States Naval Station, Key West, Fla.—Continued.

Name of maker or agent.	No. of plate.	Weight before painting.	Weight after painting.	Weight on inspection.	Condition when taken from water.	Condition of paint on removal of fouling.	Condition of plate on removal of paint.	Photograph plate.	Color of paint.
		Lbs. ozs.	*Lbs. ozs.*	*Lbs. ozs.*					
Joseph Hertzhog, esq., No. 1118 Palmer street, Philadelphia, Pa.	127 128	38 0 39 2½	39 10 40 6	40 13½ 42 6	Covered with coral and a few oysters.	A very little paint to be seen.	A little worse than 111 and 112.	Pl. 7, No. 128.	Dark green.
Howard H. Paul, esq., 105 Fulton street, Boston, Mass.	135 136	37 13½ 40 9	38 4 41 0	42 2½ 44 14	.....do.....	Life of paint all gone and badly blistered.	Badly pitted and rusty.	Pl. 5, No. 135.	Brown.
Boxten Marine Magnetic Paint.	143 144	37 2½ 39 3	37 6 34 9	42 10 41 8½	Covered with coral and oysters.	Worse than 135 and 136; no paint to be seen.	More than one-fourth of surface covered with rust.	Pl. 8, No. 143.	
G. & R. Hotson, 214 West street, New York City, N. Y.	151 152	39 0½ 37 11½	40 0 38 8	42 3½ 41 6½	Covered with branch and shell coral. Black spots on photograph of same formation as described in 323 and 324.	Some paint to be seen.	Fair.....	Pl. 1, No. 151.	Bronze green.
The Insulated Fibrous and Waterproof Paint Company, C. F. Reynolds & Co., agents, 106 and 108 Folton street, New York City, N. Y.	167 168	41 4 37 1½	41 8 37 6	45 6½ 42 2	Covered with coral and a few oysters.	Covered with fine blisters.	Badly pitted with small pits; some rusty.	Pl. 5, No. 167.	Black or very dark blue.
H. Lerner, esq., Goshen Bridge, Va.	183 184	37 4½ 39 5½	38 0 40 2	43 8½ 45 4	Covered with coral.....	Life of paint all gone; washed off in cleaning.	One-fourth covered with rust.	Pl. 8, No. 183.	Brown.
John E. White & Co., 221 Pearl street, New York City, N. Y.	215 216	36 2 40 1	36 12 40 10	40 7½ 42 9	Covered with branch and shell coral.	Very little paint to be seen.	Badly pitted and very rusty.	Pl. 3, No. 216.	Drab or gray.
Paraffine Paint Company, 310 California street, San Francisco, Cal.	231 232	37 2 35 9	Not taken.	41 3 40 5	Scum and mud; some coral commenced to form.	Nearly all washed off in cleaning.	Badly pitted and rusty.	Pl. 5, No. 232.	Black.
John Manning, esq., care of John O'Connel, esq., 591 First avenue, New York City, N. Y.	239 240	37 1 37 6	38 0 38 8	40 0½ 40 3½	.....do.....	Spotted with fine blisters.	Badly pitted with very small pits.	Pl. 2, No. 240.	Vermilion.
Liquid Glass Company, Lyme, Conn.	255 256	38 10 38 11	38 14 38 14	41 11½ 42 5	Plate covered with branch coral.	Paint all washed off; no indication that there had been any paint.	Very rusty.....	Pl. 8, No. 255.	Black.
C. P. Jones & Co., Ivoryton, Conn.	263 264	37 11 34 10	38 0 34 12	42 3 38 6	White scum and mud, with coral formation.	No indication of any paint.	Very rusty and badly pitted.	Pl. 9, No. 264.	Do.
David Jones, esq., 305 Grove street, Jersey City, N. J.	279 280	38 13 36 4	39 8 36 6	41 13 38 7	Speckled with coral.....	Badly blistered.....	Badly pitted and rusted.	Pl. 10, No. 280.	Stone color.
William Waterall & Co., northwest corner Fourth and Race streets, Philadelphia, Pa.	287 288	36 7 42 8½	36 8 42 12	40 4½ 45 7½	Speckled with coral, but thicker.	....do.....	....do.....	Pl. 11, No. 287.	Black or dark blue.
National Paint Works, Williamsport, Pa.	295 296	39 3½ 41 0	39 10 41 8	42 10½ 45 8	White scum and mud, also coral.	No indications of any paint.	Very badly rusted and pitted.	Pl. 11, No. 296.	Chocolate.
Messrs. De Last & Co., Montreal, Canada.	303 304	39 13½ 38 12½	40 0 39 4	42 8 43 15	A little better than 295 and 296.	...do.....	Badly rusted and pitted.	Pl. 12, No. 303.	Black.
John C. Griffing, esq., 23 South street, New York City, N. Y.	311 312	40 14 40 6	Not taken.	45 10 44 1	Surface covered with coral (branch). Black spots on phograph. (See P. S., foot of this page.	No indications that there had been any paint.	....do.....	Pl. 13, No. 311.	Brown.
Henry H. Whitmer, esq., Goshen, Ind.	319 320	36 2 39 11½	36 8 40 0	40 8 43 10½	.....do.....	....do.....	....do.....	Pl. 10, No. 319.	Black.
Seeley Brothers, 32 Burling Slip, New York City, N. Y.	327 328	37 8½ 38 0	38 10 39 0	39 5½ 40 5½	White scum and branch coral.	Many blistere.....	Rusted and pitted where blistered.	Pl. 4, No. 327.	Green.
Charles A. Woolsey, esq., Jersey City White Lead and Color Works, P. O. Box 295, Jersey City, N. J.	335 336	38 9½ 36 5½	39 2 36 14	43 0½ 41 1	Covered with coral, branch, and shell.	Covered with blisters	Very rusty.....	Pl. 4, No. 336.	Black.
The Howard Weatherproof Paint Company, 1½ Cedar street, New York City, N. Y.	343 344	40 8 39 5½	41 0 39 14	45 8½ 44 1	Covered with white mud, with coral formation.	No indications of paint.	A few pits and some rust.	Pl. 9, No. 344.	Do.
Henry H. Flint, esq., 174 Main street, Post-Office Block, Willimantic, Conn.	351 352	39 2½ 37 7	40 0 37 12	41 13 40 2	.....do.....	....do.....	....do.....	Pl. 12, No. 352.	Dark brown.
W. S. Crosby, esq., 59 South Charles street, Baltimore, Md.	359 360	37 9 38 10	37 14 39 0	39 3 40 4	Covered with coral specks.	Paint nearly all gone.	Some pits and some rust.	Pl. 12, No. 359.	Brown.
H. A. Sherman, esq., 43 Fulton street, New York City, N. Y.	367 368	42 2 40 10	42 8 41 2	44 12½ 43 9	Plate covered with branch coral, but not projecting from the surface over ⅛ inch.	No indications that there had been any paint.	Some pitted, and a little rusty.	Pl. 12, No. 368.	Dark drab.
Andrew Derrom, esq., Paterson, N. J.	375 376	42 1 37 6½	Not taken.	47 4½ 41 15	Speckled with coral, projecting from the surface in places over ¼ inch.	Paint nearly all gone.	Small pits and some rust.	Pl. 4, No. 375.	Black.
George W. Bailey, esq., 32 Burling Slip, New York City, N. Y.	383 384	36 1 38 13½	36 8 39 6	39 5 40 12½	Speckled with coral; some small oysters.	Covered with fine blisters (two colors shown).	Badly pitted with very fine pit.	Pl. 6, No. 383.	Green.
Mansfield Economic, Lang.	389 390	36 13 38 6	Not taken.	40 4 41 9	.....do.....	Paint nearly all gone.	....do.....	Pl. 13, No. 389.	
Lang 2. Hay's protective varnish.	395 396	41 4 39 8½	41 10 39 12	43 2 42 7½	Covered with branch coral, projecting from surface ¼ inch in a few places.	....do.....	Some pitted and rusty.	Pl. 13, No. 395.	
Orr's iron paint.....	401 402	39 0 39 15½	39 6 40 12	42 7½ 43 1	Covered with branch and shell coral.	Very little paint remaining.	Very badly pitted and rusty.	Pl. 13, No. 402.	
Wing & Evans, N. Y.....	407 408	37 15 36 15	38 6 37 4	41 4½ 39 12	.....do.....	Very little paint to be seen.	...do.....	Pl. 11, No. 407.	

P. S.—Flat shell resembling boiler scale, referred to in description of plates 223 and 224, is a very flat thin scale shell, with a grain resembling the surface of a clam shell, having a thickness of one-eighth of an inch in a shell of three inches diameter. It adheres very closely to the surface of paint or iron. In many cases upon the removal of this shell the paint was found to be good under it.

The scum or mud covering the surface of nearly all of the plates had the appearance of pulverized coral or slaked lime.

The first thirteen samples are in the order of merit as an anti-fouling and anti-corrosive composition for the bottom of iron ships.

United States Navy-Yard, Norfolk, Va.

Name of maker or agent.	No. of plates.	Weight before painting.	Weight after painting.	Weight on inspection over 3 months' immersion.	Condition of plates on removal from water, February 16, 1886. (Where stated below they were removed on February 17, 1886.)	Condition of paint on removal of fouling.	Condition of plates on removal of paint.	Photograph plate.	Color of paint.
		Lbs.ozs.	*Lbs.ozs.*	*Lbs.ozs.*					
Messrs. G. & R. Hutson, 214 West street, New York City, N. Y.	147 148	39 4 39 0	41 8 40 0	43 0 41 0	Covered with a coat of mud or scum; anti-fouling dissolved very little.*	Excellent	Excellent	Pl. 15, Fig. 148.	Bronze green.
Joseph Hertzhog, esq., 1118 Palmer street, Philadelphia, Pa.	123 124	37 4 40 4	38 8 41 8	38 8 43 0	Covered with a coat of mud or scum; a very few barnacles; anti-fouler peeled a very little.	Good	do	Pl. 16, Fig. 123.	Dark green.
Arthur H. Rice, esq., 24 Cliff street, New York City, N. Y.	219 220	35 4 39 12	36 8 40 12	37 8 42 0	Covered with a coat of mud or scum; a very few oysters; a few blisters.*	do	Good	Pl. 17, Fig. 219.	Dark drab.
H. F. Taintor, esq., 281 Pearl street, New York City, N. Y.	155 156	45 0 44 8	45 4 45 4	48 0 47 10	Covered with a coat of mud or scum; a few barnacles.*	Some blistered; otherwise good.	Rusty where blistered; otherwise good.	Pl. 15, No. 156.	Lead color.
Essex Paint Company, Essex, Conn.	19 20	40 0 40 3	41 8 42 4	43 0 42 8	Covered with a coat of mud or scum; a few little blisters; a few small barnacles.	A few little blisters; otherwise fair.	Rusty where blistered; otherwise fair.	Pl. 18, No. 20.	Dark brown.
David Jones, esq., 305 Grove street, Jersey City, N. J.	275 276	38 8 36 0	39 0 36 12	40 0 39 0	Covered with a coat of mud or scum; a very few small barnacles.*	A few small blisters; otherwise fair.	Rusty where blistered; otherwise good.	Pl. 19, No. 275.	Stone color.
Frederick W. Devoe & Co., corner Fulton and William streets, New York City, N. Y.	115 116	38 0 40 12	38 12 41 8	41 8 44 4	Covered with mud or scum.	A few large blisters.	Rusty where blistered.	Pl. 16, No. 116.	Pea green.
P. G. West, esq., 617 West Fourth street, Wilmington, Del.	83 84	45 0 38 8	45 4 39 0	48 2 44 8	Covered with mud or scum; a few barnacles (about one-fourth covered).	Paint blistered a very little.	do	Pl. 20, No. 83.	Flesh color.
P. K. Dumaresq, esq., 144 Greenwich street, New York City, N. Y.	243 244	39 8 38 12	40 0 39 4	43 8 43 8	Covered with mud or scum; about one-third covered with barnacles.	A few blisters (not as many as 83 and 84).	do	Pl. 21, No. 244.	White.
W. B. Adams, esq., 225 West Fourteenth street, New York City, N. Y.	187 188	39 12 42 8	40 4 43 4	40 0½ 44 4	Covered with mud or scum; a few barnacles, and considerably blistered, or anti-fouler worn off.	Anti-fouler worn off, and considerably blistered.	do	Pl. 22, No. 187.	Lead color.
W. S. Sinclair, esq., 114 William street, New York City, N. Y.	267 268	41 0 36 4	41 8 36 12	47 8 42 12	Covered with a coat of mud and scum; a few small barnacles, and a little blistered.	Fair; a little blistered.	Fair; rusty where blistered.	Pl. 19, No. 267.	Dark drab.
A. H. Smith, esq., 14 Vesey street, New York City, N. Y.	203 204	42 8 43 4	43 4 43 12	46 12 48 0	Covered with mud or scum; a few barnacles.*	Anti-fouling nearly all removed, otherwise paint fair.	A very few small rust spots; otherwise good.	Pl. 17, No. 203.	Black.
Composition prepared by painter at United States navy-yard, Norfolk, Va.	283 284	37 0 35 8	....	43 4 39 10	Covered with mud or scum; a few barnacles (would cover about one-third of plate).	Some blistered; otherwise fair.	A little rusty where blistered.	Pl. 23, No. 284.	
New York Silica Paint and Color Company, 31 and 33 South Fifth street, Brooklyn, E. D.	107 108	42 8 44 4	43 8 45 4	45 8 46 0	Covered with mud or scum; no barnacles or oysters.	A few large blisters, anti-fouling nearly all dissolved.	Rusty where blistered.	Pl. 16, No. 108.	Crocus.
Protector Paint Company, London.	3 4	39 12 40 0	40 0 40 4	50† 0 42 4	Covered with mud or scum; a few barnacles.	A few small blisters; good.	Rusty where blistered; otherwise good.	Pl. 18, No. 4	
H. Thompson & Co., 95 Merrow street, London, S. E.	195 196	36 8 36 8	37 0 36 12	40 8 41 4	Covered with mud or scum; well covered with barnacles.	do	Very little rusty where blistered; otherwise good.	Pl. 22, No. 195.	Red.
Mansfield Economic	385 386	42 0 40 0	42 12 40 12	48 4 43 2	Mud or scum, one-fourth covered with barnacles, and about 40 oysters.*	Fair	A little rusty; otherwise fair.	Pl. 24, No. 386.	
George W. Bailey, esq., 32 Burling Slip, New York City, N. Y.	379 380	42 12 36 12	43 0 37 4	47 12 40 12	About one-fourth covered with barnacles and a few oysters.*	do	A very little rusty in spots.	Pl. 24, No. 380.	Green.
J. W. & F. R. Hoard, Infantry Building, Providence, R. I.	11 12	40 6 36 0	42 4 38 4	46 0 40 7	About one-third covered with barnacles; a few worm-like shells (as seen on shells of oysters).	Badly blistered and all washed off in cleaning.	Badly rusted	Pl. 18, No. 12.	Do.
Hartman Le Deux & Maccker, 134 Pearl street, New York City, N. Y.	27 28	39 6 42 0	40 0 42 4	51 0 55 4	Covered with barnacles and oysters.	Anti-fouling all dissolved and paint all washed off in cleaning.	A little rusty; otherwise good.	Pl. 18, No. 28.	Chocolate.
The Bridgeport Wood Finishing Company, 40 Bleecker street, New York City, N. Y.	35 36	36 5 42 6	36 12 43 4	44 0 50 12	do	Paint nearly all washed off in cleaning.	A little rusty	Pl. 25, No. 35.	Black.
Samuel Williams, esq., 181 South street, between Roosevelt and James Slip, New York City, N. Y.	43 44	41 0 40 3	41 8 41 4	49 2 47 0	Nearly covered with barnacles; a few oysters scattered over the plate.*	Nearly all washed (scraped) off in cleaning.	A little rusty in spots	Pl. 25, No. 43.	Brown.
Eclipse Oil Company, 50 South street, New York City, N. Y.	51 52	37 8 40 8	37 12 40 12	45 0 52 6	Covered with barnacles and oysters.	Washed off in cleaning.	Very rusty	Pl. 25, No. 51.	Black.
M. Hubbe, esq., 164 Maiden Lane, New York City, N. Y.	59 60	39 12 41 8	40 0 41 12	53 4 56 12	do	About one-half came off in cleaning.	Some pitted and half covered with rust.	Pl. 25, No. 59.	Dark brown, "Hall's Excelsior Bottom Paint."
Henry Devens, esq., Brattleboro, Vt.	67 68	39 12 39 0	40 0 39 8	47 10 42 12	Covered with barnacles, with a few oysters scattered over the plate.	Some small blisters, and nearly all the paint scraped off in cleaning.	Rusty where blistered.	Pl. 20, No. 68.	Chocolate.
Canton Paint & Oil Company, 160 Congress street, Boston, Mass.	75 76	41 8 41 4	42 0 41 4	48 9 55 12	Covered with barnacles and oysters.	A little blistered; one-half came off in cleaning.	Some pitted and about one-half covered with rust.	Pl. 20, No. 75.	Dark drab.
Paxton's	91 92	38 8 45 0	39 4 45 8	47 8 56 8	Well covered with fine barnacles.	Fair	Fair; a little rusty	Pl. 20, No. 91.	
Composition prepared by painter at U. S. navy-yard, Norfolk, Va.	99 100	37 0 41 4	....	41 5 45 12	Half covered with barnacles and oysters.	A few blisters	Rusty where blistered.	Pl. 23, No. 99.	
Howard H. Paul, esq., 105 Fulton street, Boston, Mass.	131 132	39 8 39 0	39 12 39 4	48 0 48 12	Covered with barnacles; a few oysters.	Nearly all came off in cleaning; a few blisters.	do	Pl. 16, No. 131.	Brown.

* Removed from water February 18, 1886.

† Outside plate.

United States Navy-Yard, Norfolk, Va.—Continued.

Name of maker or agent.	No. of plate.	Weight before painting.	Weight after painting.	Weight on inspection (over eight months immersion).	Condition of plates on removal from water, February 16, 1886. (Where stated below they were removed February 17, 1886).	Condition of paint on removal of fouling.	Condition of plate on removal of paint.	Photograph plate.	Color of paint.
		Lbs. ozs.	*Lbs. ozs.*	*Lbs. ozs.*					
Wm. M. Baxter & Co., 252 Pearl street, New York City, N. Y.; P. O. box 3154.	139 140	40 0 40 0	40 4 40 4	56 8 55 4	Covered with barnacles, with a few oysters.*	A little blistered, and one-half came off in cleaning.	One-half covered with rust.	Pl. 15, No. 139.	Black.
The Insulated Fibrous & Waterproof Paint Company, C. T. Raynolds & Co., agents, 106 and 108 Fulton street, New York City, N. Y.	163 164	40 12 41 4	41 0 41 8	51 12 49 12	Well sprinkled with barnacles and oysters.*	Some blistered.....	About one-half covered with rust.	Pl. 15, No. 164.	Black or dark blue.
Janentzky & Weber, 1125 Chestnut street, Philadelphia, Pa.	171 172	42 12 39 4	43 8 39 12	54 0 51 4	Covered with barnacles, with a few oysters scattered over the plate.	Some blistered, and one-half came off in cleaning.	Rusty where blistered.	Pl. 22, No. 171.	Vermilion.
H. Lerner, esq., Goshen Bridge, Va.	179 180	43 12 41 8	44 0 41 12	50 12 50 0	Well covered with barnacles and small oysters.	All scraped off in cleaning.	Badly pitted and very rusty.	Pl. 22, No. 179.	Brown.
John E. White & Co., 221 Pearl street, New York City, N. Y.	211 212	43 0 40 4	43 8 40 12	46 0 43 4	Half covered with barnacles; oysters commenced to grow.*	Life of paint all gone, and some blistered.	Rusty where blistered.	Pl. 17, No. 211.	Drab or gray.
Paraffine Paint Company, 310 California street, San Francisco, Cal.	227 228	39 0 40 4	39 4 40 12	47 0 45 8	Half covered with barnacles, oysters, and hard, worm-shaped shells.*	Paint came off in cleaning; covered with pimples.	Covered with small rusty spots.	Pl. 17, No. 228.	Black.
John Manning, esq., care of John O'Connel, esq., 591 First avenue, New York City, N. Y.	235 236	39 0 40 0	39 4 40 8	43 10 42 8	Half covered with barnacles, with a few oysters scattered among them.	Paint about one-eighth blistered, and one-half scraped off in cleaning.	A little rusty where blistered; otherwise plate well preserved.	Pl. 21, No. 236.	Vermilion.
Liquid Glass Company, Lyme, Conn.	251 252	34 8 40 12	35 0 41 4	38 12 43 8	.....do.....	Paint about one-eighth blistered, and one-half scraped off in cleaning; only a few small blisters.	....do.....	Pl. 21, No. 252.	Black.
C. P. Jones & Co., Ivoryton, Conn.	259 260	40 12 37 0	41 0 37 4	49 8 42 12	About one-third covered with barnacles and oysters.	Some small blisters; paint all scraped off in cleaning.	Rusty where blistered.	Pl. 21, No. 260.	Do.
National Paint Works, Williamsport, Pa.	291 292	37 12 42 4	38 0 42 8	48 0 49 0	Half covered with barnacles and a few oysters.*	Few small blisters; otherwise fair.	Fair, but a little rusty	Pl. 19, No. 292.	Chocolate.
Messrs. De Last & Co., Montreal, Canada.	299 300	37 4 37 8	37 12 38 0	50 0 53 4	Well covered with barnacles and a few oysters.*	Very little blistered; one-half cleaned off.	Some rusty where blistered.	Pl. 19, No. 300.	Black.
John C. Griffing, esq., 23 South street, New York City, N. Y.	307 308	41 12 41 12	42 4 42 8	53 12 49 8	(*)	Life all gone, and cleaned off in cleaning.	Well covered with rust.	Pl. 26, No. 308.	Brown.
Henry Witmer, esq., Goshen, Ind.	315 316	38 0 34 12	38 12 35 0	51 4 40 8	Over half covered with barnacles; a few oysters (about a dozen small oysters).*	A few small pimples; otherwise fair.	Rusty where pimples; otherwise fair.	Pl. 26, No. 315.	Black.
Seeley Bros., 32 Burling Slip, New York City, N. Y.	323 324	42 8 39 12	43 0 40 4	51 4 47 8	.....do.....	A few small blisters; anti-fouling all worn off (dissolved); paint nearly all cleaned off.	A few rust spots where blistered.	Pl. 26, No. 324.	Green.
Charles A. Woolsey, esq., Jersey City White Lead and Color Maker, P. O. box 295, Jersey City, N. J.	331 332	43 4 37 4	44 4 38 4	50 12 45 3	.....do.....	All removed in cleaning.	Covered with small rusty spots.	Pl. 26, No. 332.	Black.
The Howard Waterproof Paint Company, 1½ Cedar street, New York City, N. Y.	339 340	35 4 40 8	35 8 40 12	43 0 44 8	Covered with barnacles and oysters.	Life of paint all gone, washed off in cleaning.	Pitted badly and covered with rust.	Pl. 27, No. 339.	Do.
Henry H. Flint, esq., 174 Main street, Post-Office Block, Willimantic, Conn.	347 348	40 0 43 8	40 12 44 0	45 8 48 4	Plate half covered with barnacles, with a few oysters scattered over the plate.	A few pimples and a little rusty; otherwise fair.	A little rusty.....	Pl. 27, No. 347.	Dark brown.
W. S. Crosby, esq., 59 South Charles street, Baltimore, Md.	355 356	35 4 36 12	35 12 37 0	38 2 41 4	A few barnacles.....	Some small blisters; otherwise fair.	A very little rusty where blistered; otherwise plate good.	Pl. 27, No. 355.	Brown.
H. A. Sherman, esq., 43 Fulton street, New York City, N. Y.	363 364	41 0 38 8	41 12 39 4	46 2 52 8	Covered with barnacles, with a few oysters scattered over the plate.	Paint fair; a few blisters.	A little rusty.....	Pl. 27, No. 363.	Dark drab.
Andrew Derrom, esq., Room 4, No. 209 Main street, Paterson, N. J.	371 372	35 8 38 0	39 0 40 8	48 2 48 0	Covered with barnacles; works like coal tar.*	Paint good, but very rough.	Good.....	Pl. 24, No. 372.	Black.
Hay's Protector Varnish ..	391 392	35 0 38 4	35 12 38 12	50 4 51 12	About one-third covered with barnacles.*	Paint fair; a few small blisters.	A very little rusty..	Pl. 24, No. 392.	
Composition mixed at United States navy-yard, Norfolk, Va.	397 398	39 12 38 4	40 0 38 8	55 2 47 8	Covered with barnacles, with a few oysters scattered among them.	Came off in cleaning.	Very rusty	Pl. 23, No. 398.	
Composition mixed at United States navy-yard, Norfolk, Va.	403 404	42 0 39 4	....	46 8 48 4	One-half covered with barnacles, with oysters commenced forming.	One-half came off in cleaning; one-eighth covered with blisters.	Very rusty where blistered, but not pitted.	Pl. 23, No. 404.	

* Removed from water February 17, 1886.

United States Navy-Yard, League Island, Philadelphia, Pa.

Name of maker or agent.	No. of plate.	Weight after painting.		Weight on inspection.		Plates immersed March 30, 1885; condition of plate on removal from water after an immersion of eight months and ten days; removed from water December 10, 1885.	Condition of paint on removal of fouling.	Condition of plate on removal of paint.	Color of paint.
		Lbs.	*ozs.*	*Lbs.*	*ozs.*				
William B. Adams, esq., No. 225 West Fourteenth street, New York City, N. Y.	185	39	1	38	13½	Covered with a gray scum	Excellent	Slight rust	Lead color.
	186	38	3	37	12				
David Jones, esq., No. 305 Grove street, Jersey City, N. J.	273	41	8½	41	2	do	do	Excellent	Stone color.
	274	39	7½	39	2				
H. F. Taintor, esq., No. 281 Pearl street, New York City, N. Y.	153	38	0	37	9½	do	do	Good; some small spots of rust.	Lead color.
	154	41	12½	41	10½				
John E. White & Co., No. 221 Pearl street, New York City, N. Y.	209	40	4½	40	1½	do	do	Excellent	Drab or gray.
	210	39	10	39	4				
G. & R. Hutson, No. 214 West street, New York City, N. Y.	145	38	10	39	9	do	do	do	Bronze green.
	146	39	8	39	7				
Frederick W. Devoe & Co., corner of Fulton and William streets, New York City, N. Y.	113	37	6	37	2½	do	Covered with fine blisters size of pinheads.	Good	Pea green.
	114	35	12	35	8½				
P. K. Dumaresq, esq., No. 144 Greenwich street, New York City, N. Y.	241	61	0	60	4½	do	Dissolved and washed off in cleaning.	do	White.
	242	61	0	60	7				
W. S. Sinclair, esq., No. 114 William street, New York City, N. Y.	265	39	4½	39	0½	Covered with a gray scum and some moss, about $\frac{1}{16}$ inch thick.	Fair; a few spots washed off in cleaning.	Good; a few small rust spots.	Dark drab.
	266	40	10	40	5				
Arthur H. Rice, esq., No. 24 Cliff street, New York City, N. Y.	217	41	1½	40	5½	Covered with mud and scum, about $\frac{1}{16}$ inch thick.	Partially washed off in cleaning.	do	Do.
	218	42	6½	41	10½				
New York Silica Paint and Color Company, 31 and 33 South Fifth street, Brooklyn, E. D., N. Y.	105	40	3	40	3	Covered with mud, scum, and moss about $\frac{1}{16}$ inch thick.	Fair	Good	Crocus.
	106	39	10½	39	11				
H. Thompson & Co., No. 95 Merrow street, Walworth, London, S. E.	193	40	2	41	0	Covered with mud and scum about $\frac{1}{16}$ inch thick.	Good	Excellent	Red.
	194	39	12	39	11½				
A. H. Smith, esq., No. 14 Vesey street, New York City, N. Y.	201	37	7	37	0½	do	Soft; easily washed off, leaving the plate bare.	Commenced to rust	Black.
	202	40	5½	40	2½				
Seeley Brothers, No. 32 Burling Slip, New York City, N. Y.	321	34	9½	34	7	do	Paint porous and surface resembling alligator's skin; not protecting the iron.	Rusty where cracked.	Green.
	322	40	10	40	7				
Samuel Williams, esq., 181 South street, between Roosevelt street and James Slip, New York City, N. Y.	41	39	2	39	0	do	Some blistered; washed off where blisters were.	Good	Brown.
	42	38	6½	38	5				
P. G. West, esq., No. 617 West Fourth street, Wilmington, Del.	81	38	13	39	1	do	Covered with blisters about one-fourth inch across, which scraped off in cleaning.	Commenced to rust where blistered.	Cream or flesh-color.
	82	39	14	40	5½				
C. P. Jones & Co., Ivoryton, Conn	257	39	0	38	14½	Covered with mud, scum, and moss about $\frac{1}{8}$ inch thick.	About one-third washed off in cleaning.	Good	Black.
	258	40	11	42	12½				
William Waterall & Co., northwest corner Fourth and Race streets, Philadelphia, Pa.	281	38	2	38	6½	Covered with mud, scum, and moss about $\frac{3}{16}$ inch thick.	Life of paint all gone and cleaned off with fouling.	Rusty	Black or dark blue.
	282	37	11	38	0				
George W. Bailey, esq., No. 32 Burling Slip, New York City, N. Y.	377	40	5½	40	4½	Covered with mud, scum, and moss about $\frac{3}{16}$ inch thick (8 months and 9 days' immersion).	Life of paint all gone; surface resembling alligator's skin; washed off in cleaning.	do	Green.
	378	39	8½	39	8½				
John Manning, esq., care of John O'Connel, esq., No. 591 First avenue, New York City, N. Y.	233	40	2	40	4	Covered with mud, scum, and moss about $\frac{1}{4}$ inch thick.	Fair	Good	Vermilion.
	234	42	0	42	1½				
W. S. Crosby, esq., No. 59 South Charles street, Baltimore, Md.	353	41	5½	41	11½	Covered with mud, scum, and moss about $\frac{3}{8}$ inch thick (8 months and 9 days' immersion).	Covered with small blisters; paint nearly all washed off in cleaning.	Rusty	Brown.
	354	42	10½	43	4				
Andrew Derrom, esq., Paterson, N. J.	369	46	0	47	2	Covered with mud and moss about $\frac{3}{8}$ inch thick.	Washed off in cleaning	Good	Black.
	370	46	8	48	0				
Essex Paint Company, Essex, Conn.	17	39	8	39	5	Covered with mud and scum	About one-half of plate blistered and washed off in cleaning.	Rusty where blistered.	Dark brown.
	18	40	4½	44	0				
Paraffine Paint Company, No. 310 California street, San Francisco, Cal.	225	38	12	38	11	Covered with mud, scum, and moss	Fair	Excellent	Black.
	226	43	2	43	6				
Liquid Glass Company, Lyme, Conn.	249	37	1	37	1½	do	Small blisters from $\frac{1}{4}$ to $\frac{3}{8}$ inch in diameter, paint firm, except where blistered.	Rusty where blistered.	Do.
	250	43	1	43	2				
Joseph Hertzhog, esq., No. 1118 Palmer street, Philadelphia, Pa.	121	39	12	40	2	Covered with mud and scum about $\frac{1}{8}$ of an inch (8 months and 9 days immersion).	Anti-fouler washed off	Excellent	Dark green.
	122	39	1	39	2½				
Henry H. Flint, esq., No. 174 Main street, Post-Office Block, Willimantic, Conn.	345	35	11	38	4	Covered with mud, scum, and moss from $\frac{1}{4}$ to $\frac{1}{2}$ inch thick, about $\frac{1}{2}$ inch where moss is attached.	A few blisters; paint dissolved in cleaning.	Rusty where blistered.	Dark brown.
	346	40	1	40	10				
Canton Paint and Oil Company, No. 160 Congress street, Boston, Mass.	73	39	4½	39	10½	Covered with mud, scum, and moss about $\frac{1}{4}$ inch thick.	Covered with blisters; paint washed off in cleaning.	Rusty	Dark drab.
	74	37	4	39	10				
H. Lerner, esq., Goshen Bridge, Va	177	39	14½	40	5½	Covered with mud, scum, and moss about $\frac{1}{2}$ inch.	Paint porous	do	Brown.
	178	38	14½	39	9				
Howard Weatherproof Paint Company, No. 1½ Cedar street, New York City, N. Y.	337	39	14½	40	1½	Covered with mud and scum about $\frac{1}{4}$ inch thick, with considerable moss $\frac{1}{2}$ inch thick.	Some blistered; otherwise fair.	Rusty where blistered.	Black.
	338	44	8	45	5½				
Hartman, Le Doux & Maecker, No. 134 Pearl street, New York City, N. Y.	25	39	10	40	6	Covered with mud, scum, and moss from $\frac{1}{8}$ to $\frac{1}{2}$ inch thick (8 months and 9 days' immersion).	Anti-fouler dissolved; paint fair.	Excellent	Chocolate.
	26	41	3	41	12				
Henry Dovens, esq., Brattleboro, Vt.	65	41	3½	41	1½	Covered with mud and scum about $\frac{1}{2}$ inch thick (8 months and 9 days immersion).	A few small blisters and partly washed off in cleaning.	A few rusty spots about $\frac{1}{4}$ inch across.	Chocolate.
	66	38	1	38	3				
J. W. & F. R. Hoard, Infantry Building, Providence, R. I.	9	39	1	39	6	Covered with mud, scum, and moss about $\frac{3}{8}$ inch thick.	Covered with fine blisters	Rusty	Red.
	10	37	8	38	4½				
Eclipse Oil Company, No. 50 South street, New York City, N. Y.	49	38	7½	39	11	Covered with mud, scum, and moss about $\frac{1}{2}$ inch thick (8 months and 9 days immersion).	Paint porous and covered with small blisters.	do	Black.
	50	39	0	40	6				
The Bridgeport Wood-Finishing Company, No. 40 Bleecker street, New York City, N. Y.	33	38	12	39	7½	Covered with mud, scum, and moss about $\frac{3}{8}$ inch thick.	Washed off with fouling	Good	Do.
	34	37	14½	39	5½				
The Insulated Fibrous and Waterproof Paint Company, C. T. Raynolds & Co., agents, Nos. 106 and 108 Fulton street, New York City, N. Y.	161	38	4½	39	3	Covered with mud, scum, and moss about $\frac{3}{8}$ inch thick, moss $\frac{5}{8}$ inch.	Nearly all washed off in cleaning.	Excellent	Black or dark blue.
	162	38	4½	39	2½				

United States Navy-Yard, League Island, Philadelphia, Pa.—Continued.

Name of maker or agent.	No. of plate.	Weight after painting.		Weight on inspection.		Plate immersed March 30, 1885; condition of plate on removal from water after an immersion of eight months and ten days; removed from water December 10, 1885.	Condition of paint on removal of fouling.	Condition of plate on removal of paint.	Color of paint.
		Lbs.	*ozs.*	*Lbs.*	*ozs.*				
Wilson & Hughes Stone Company, No. 170 Superior street, Cleveland, Ohio.	1	40	8½	41	9½	Covered with mud, scum, and moss ⅝ inch thick (8 months and 9 days immersion).	Covered with large blisters, which washed off in cleaning.	Rusty	Light brown.
	2	38	8	39	8				
The Elastic Paint Company, room 15, No. 101 Washington street, Chicago, Ill. M. H. Russell.	97	37	11½	38	12	Covered with mud and scum ⅜ inch thick, with moss ⅝ inch in places.	Some blistered, which washed off in cleaning.	Rusty where blistered.	Black.
	98	41	4½	41	11½				
Messrs. De Last & Co., Montreal, Canada.	297	38	0	38	10	Covered with mud, scum, and moss ⅜ inch thick.	All washed off in cleaning	Good	Do.
	298	40	10½	40	0½				
Howard H. Paul, esq., No. 105 Fulton street, Boston, Mass.	129	41	0	41	6	Covered with mud, scum, and moss about ⅜ inch thick.	One-eighth of plate peeled and one-half of plate blistered. All washed off in cleaning.	Rusty	Brown.
	130	39	4	40	1				
William M. Baxter & Co., No. 252 Pearl street, New York City, N. Y.	137	38	4½	40	1½	Covered with mud, scum, and moss about ½ inch thick (8 months and 9 days immersion).	Paint fair, except a few blisters.	Rusty where blistered.	Black.
	138	37	6	38	14½				
M. Hubbe, esq., Hall's Excelsior Bottom Paint, No. 164 Maiden Lane, New York City, N. Y.	57	40	1	40	11½	Covered with mud, scum, and moss about ⅜ inch thick.	About ¼ of paint blistered and ½ peeled. All washed off in cleaning.	Rusty	Dark brown.
	58	38	9	39	9½				
Messrs. Janentzky & Weber, No. 1125 Chestnut street, Philadelphia, Pa.	169	41	0	41	6½	Covered with mud, scum, and moss ⅜ inch thick.	Paint porous, with a few blisters.	Rusty where blistered.	Vermilion.
	170	40	15	41	9½				
H. A. Sherman, esq., No. 43 Fulton street, New York City, N. Y.	361	38	9½	39	0½	Covered with mud, scum, and moss about ⅜ inch thick.	About ¼ of plate blistered and ¼ plate peeled. Partially washed off in cleaning.	Rusty where blistered and peeled.	Dark drab.
	362	43	8	45	0				
National Paint Works, Williamsport, Pa.	289	39	4	40	12½	do	A few blisters; otherwise fair.	Rusty where blistered.	Chocolate.
	290	39	13	40	12½				
Henry H. Witmer, esq., Goshen, Ind.	313	39	10	39	14	do	Good	Good	Black.
	314	38	5	38	10½				
John C. Griffing, esq., No. 23 South street, New York City, N. Y.	305	38	10	42	8	Covered with moss about ½ inch thick.	About ¼ of plate peeled; about ¼ of plate blistered; ½ of paint scaled off when dry.	Rusty	Brown.
	306	38.	0	42	1				
Charles A. Woolsey, esq., Jersey City White Lead and Color Works, P. O. box 295, Jersey City, N. J.	329	42	15½	43	2½	Covered with mud and scum	Badly blistered and scaled off.	do	Black.
	330	43	0	44	0				
Joseph S. Paxon, esq., No. 301 South Fortieth street, Philadelphia, Pa.	89	39	12	40	5½	Covered with mud, scum, and moss about ½ inch thick.	Fair	Excellent	Red-lead color.
	90	38	14	39	12				

United States Nary-Yard, Portsmouth, N. H.

Name of maker or agent.	No. of plate.	Weight before painting.	Weight after painting.	Weight on inspection.	Condition of plates when removed from water April 6, 1886, after an immersion of eight months and six days.	Condition of paint on removal of fouling.	Condition of plate on removal of paint.	Photograph plate.	Color of paint.
		Lbs. ozs.	*Lbs. ozs.*	*Lbs. ozs.*					
Joseph Hertzheg, esq., 1118 Palmer street, Philadelphia, Pa.	125 126	39 6 39 6	40 2½ 40 2½	40 10 40 9½	Covered with a very thin scum, which easily washed off without scrubbing.	Excellent	Excellent	Pl. 28, No. 126.	Dark green.
H. F. Taintor, esq., No. 281 Pearl street, New York City, N. Y.	157 158	40 1½ 37 2	41 12 38 6½	42 2½ 39 0½	Covered with a very thin scum, which easily washed off without scrubbing. Less fouling than 125 and 126.	Showed a very few pin spots of rust.	....do	Pl. 29, No. 158.	Lead color.
Messrs. G. & R. Hutson, No. 214 West street, New York City, N. Y.	149 150	41 5½ 32 2	42 9½ 33 11	42 14½ 34 4½	Covered with a thin scum and mud, which easily washed off.	Good; a few very small rust spots.	Very good	Pl. 30, No. 150.	Bronze green.
Messrs. H. Thompson & Co., 95 Merrow street, Walworth, London, S E.	197 198	36 7 40 3½	36 13½ 40 10	37 6 41 1½	Covered with a thin scum, which easily washed off.	... do	....do	Pl. 31, No. 198.	Red.
Samuel Williams, esq., No. 181 South street, between Roosevelt street and James Slip, New York City, N. Y.	45 46	44 7½ 35 12½	44 15 36 5	46 6½ 37 1	..... do	Blistered near one end.	Fair; rusty and pitted where blistered.	Pl. 32, No. 46.	Brown
W. S. Crosby, esq., 59 South Charles street, Baltimore, Md.	357 358	33 10 41 2½	34 1½ 41 7½	35 1 42 10½	Covered with thin scum and mud.	Fair; a few blisters and some rust.	Fair; rusty where blistered.	Pl. 33, No. 358.	Do.
Messrs. Seeley Brothers, No. 32 Burling Slip, New York City, N. Y.	325 326	39 4 42 14	39 15½ 43 11	40 12 44 7½	Covered with scum and mud.	Fair; some blistered.	... do	Pl. 34, No. 326.	Green.
H. Lerner, esq., Goshen Bridge, Va.	181 182	36 12½ 40 2½	37 10 41 1½	39 10 42 8½	Covered with scum, mud, and considerable fine grass.	....do	Rusty where blistered.	Pl. 31, No. 182.	Brown.
John Manning, esq., care of John O'Connel, esq., 591 First avenue, New York City, N. Y.	237 238	38 2 39 4	38 4½ 39 9	39 7½ 40 7	Covered with scum and mud.	Paint nearly one-half gone.	Rusty and pitted where paint was gone.	Pl. 33, No. 238.	Vermilion.
Messrs. Frederick Devoe & Co., corner Fulton and William streets, New York City, N. Y.	117 118	36 2½ 41 7½	36 15½ 42 6½	38 1 43 2½	Mud, and a few spots of green grass had commenced to grow, and one mussel.	Anti-fouler nearly all gone; ground coat of paint fair.	Small spots of rust and a few pits.	Pl. 28, No. 118.	Pea green.
The Insulated Fibrous and Waterproof Paint Company, C. T. Reynolds & Co. agents, 106 and 108 Fulton street, New York City, N. Y.	165 166	44 12 32 5	44 13½ 32 8	....	Mud and scum	Fair; some spots washed off.	Good	Pl. 29, No. 166.	Black or dark blue.
Messrs. DeLast & Co., Montreal, Canada.	301 302	34 15 39 11	35 9½ 40 0	36 3½ 40 12	Mud and scum and a few barnacles.	Fair	Fair	Pl. 35, No. 302.	Black.
Messrs. Jenentzky & Weber, No. 1125 Chestnut street, Philadelphia, Pa.	173 174	42 6 38 8	42 15 39 1½	45 1½ 40 15½	Mud and scum; grass had commenced to grow.	Some rust spots; in other places fair.	Rusty and pitted in spots.	Pl. 31, No. 174.	Vermilion.
Messrs. Hartman, Le Doux & Maecker, No. 134 Pearl street, New York City, N. Y.	29 30	42 11 41 9½	42 14 41 14	44 3½ 43 4	Thin scum	About one eighth gone.	Some large spots of rust.	Pl. 36, No. 30.	Chocolate.
W. S. Sinclair, esq., No. 114 William street, New York City, N. Y.	269 270	37 12½ 43 10½	38 8 45 0	39 11 46 15	Thin scum; two coats could not be applied on account of its solidity.	Good; chemical formation of paint appeared imperfect.	Fair	Pl. 30, No. 270.	Dark drab.
Wilson & Hughes Stone Company, No. 170 Superior street, Cleveland, Ohio.	5 6	37 5 38 11½	37 10 39 1½	39 11 41 4½	Thin scum, mud, and a few soft barnacles.	Badly blistered; one-eighth of paint gone.	Rusty	Pl. 36, No. 6	Light brown.
J. W. & F. R. Hoard, Infantry Building, Providence, R. I.	13 14	40 15 39 6	41 5 39 11	43 13 42 1	Thin scum and mud; barnacles had commenced to grow; one star-fish.	Paint about one-half loose.	... do	Pl. 36, No. 14.	1 red and 1 green
Essex Paint Company, Essex, Conn.	21 22	36 15 37 13	37 12½ 39 2	39 0 40 2	Thin scum and mud	About one half loose and badly blistered.	Covered with fine spots of rust, and some pitting.	Pl. 36, No. 22.	Dark brown.
The Bridgeport Wood Finishing Company, No. 40 Bleeckerstreet, New York City, N. Y.	37 38	37 0½ 38 12½	37 5 39 0½	38 10 40 11½	Scum and mud; a few soft barnacles, and a few spots of moss.	Blistered in spots from one-half to three inches across.	Rusty where blistered.	Pl. 32, No. 37.	Black.
Eclipse Oil Company, No. 50 South street, New York City, N. Y.	53 54	38 14 36 10	39 0 36 15	41 11 39 14	Scum and mud	Paint one-half gone.	Badly rusted	Pl. 32, No. 54.	Do.
M. Hubbe, esq., Hall's Excelsior Bottom Paint, No. 164 Maiden Lane, New York City, N. Y.	61 62	40 5 39 4½	40 9½ 39 7	43 7 42 0½	..... do	Paint more than half gone.	....do	Pl. 32, No. 62.	Dark brown.
Henry Devens, esq., Brattleboro, Vt.	69 70	41 13½ 43 13½	42 4 44 4½	43 11½ 45 8½	Scum and mud, a little grass, a few barnacles, and one clam.	Spotted with fine blisters.	Fine rust spots where blistered.	Pl. 37, No. 70.	Chocolate.
Canton Paint and Oil Company, No. 160 Congress street, Boston, Mass.	77 78	38 9½ 39 1½	39 1 39 3	40 12 41 4	Mud and scum; a few barnacles.	Paint all gone	Rusty; partly preserved.	Pl. 37, No. 78.	Dark drab.
P. G. West, esq., No. 617 West Fourth street, Wilmington, Del.	85 86	37 15 36 14½	38 3 37 2½	39 8½ 38 15½	Mud and scum	About one-third of surface loose and blistered.	Rusty where blistered.	Pl. 37, No. 86.	Cream or flesh color.
The Elastic Paint Company, Room 15, No. 101 Washington street, Chicago, Ill.	101 102	41 12 38 0	41 12½ 38 0½	44 8 40 15½	Mud, green scum, and a few small barnacles.	About one-fourth gone and blistered.	Rusty and pitted where blistered.	Pl. 37, No. 102.	Black.
New York Silica Paint and Color Company, Nos. 31 and 33 South Fifth street, Brooklyn, E. D., N. Y.	109 110	41 1 40 1½	41 10½ 40 8	44 0 42 10½	Mud, scum, grass, and kelp had commenced to grow.	Badly blistered; all washed off in cleaning.	Badly pitted	Pl. 28, No. 110.	Greens.
Howard H. Paul, esq., No. 105 Fulton street, Boston, Mass.	133 134	39 8½ 41 11	39 15 42 3	40 14½ 43 5½	Mud, scum, and grass had commenced to grow, rockweed in one place.	Nearly all gone	Covered with very fine rust spots and a few large ones.	Pl. 28, No. 134.	Brown.
Wm. M. Baxter & Co., No. 252 Pearl street, New York City, N. Y., P. O. box 3154.	141 142	40 3½ 37 0½	40 8 37 4	43 2½ 39 13½	Mud and scum	Paint all gone	Badly pitted and very rusty.	Pl. 30, No. 142.	Black.
Wm. B. Adams, esq., No. 225 West Fourteenth street, New York City, N. Y.	189 190	41 11 35 1	42 5 35 12½	42 14½ 36 4	A very little scum	Covered with very fine blisters; paint nearly all washed off in cleaning.	Fair	Pl. 31, No. 190.	Lead color.

United States Navy-Yard, Portsmouth, N. H.—Continued.

Name of maker or agent.	No. of plate.	Weight before painting.		Weight after painting.		Weight on inspection.		Condition of plate when removed from water April 6, 1886, after an immersion of eight months and six days.	Condition of paint on removal of fouling.	Condition of plate on removal of paint.	Photograph plates.	Color of paint
		Lbs.	*ozs.*	*Lbs.*	*ozs.*	*Lbs.*	*ozs.*					
A. H. Smith, esq., No. 14 Vesey street, New York City, N. Y.	205	40	11½	43	2½	43	0	Thin scum; two coats very difficult of application.	Badly blistered and peeled as soon as dry.	Good	Pl. 35, No. 206.	Black.
	206	37	11½	39	11	40	10½					
Arthur H. Rice, esq., No. 24 Cliff street, New York City, N. Y.	221	43	15	45	8	46	4	Thin scum	do	do	Pl. 35, No. 222.	Dark drab.
	222	41	5½	42	15	43	14½					
Paraffine Paint Company, No. 310 California street, San Francisco, Cal.	229	38	1	38	8	39	4½	Thin scum and mud	Covered with fine blisters and spotted with fine rust spots.	Spotted with fine rust spots.	Pl. 33, No. 230.	Black.
	230	38	13	39	5½	40	1½					
P. R. Dumaresq, esq., No. 144 Greenwich street, New York City, N. Y.	245	39	15½	41	9	42	15	Covered with scum and mud, grass had commenced to grow; two coats difficult of application.	Paint peeled as soon as the plate was dry.	Excellent	Pl. 38, No. 246.	White.
	246	43	6	44	13½	45	15					
Liquid Glass Company, Lyme, Conn.	253	42	3½	42	9	43	15	Mud and scum; badly spotted with rust.	Very little value	Badly rusted	Pl. 38, No. 254.	Black.
	254	40	13	41	2	42	15½					
C. P. Jones & Co., Ivoryton, Conn.	261	39	6	39	10	42	5½	do	do	do	Pl. 30, No. 262.	Do.
	262	39	6	39	10½	42	2½					
David Jones, esq., No. 305 Grove street, Jersey City, N. J.	277	40	0	40	11½	41	8½	Covered with scum and mud.	Covered with small blisters.	do	Pl. 39, No. 278.	Stone color.
	278	43	0½	43	15½	44	9½					
William Waterall & Co., northwest corner Fourth and Race streets, Philadelphia, Pa.	285	41	1	41	5	42	0	Scum and mud	do	do	Pl. 39, No. 286.	Black or dark blue.
	286	41	4	41	12	42	5½					
John C. Griffing, esq., No. 23 South street, New York City, N. Y.	309	39	11	40	2½	41	3	do	Very badly rusted	Very badly rusted	Pl. 35, No. 310.	Brown.
	310	38	8½	39	0½	40	15					
Charles A. Woolsey, esq., Jersey City White Lead and Color Works, P. O. box 295, Jersey City, N. J.	333	46	0	47	0	48	1	do	Very badly blistered.	Very rusty	Pl. 34, No. 334.	Black.
	334	45	12	46	8	48	3					
The Howard Weatherproof Paint Company, No. 1½ Cedar street, New York City, N. Y.	341	45	3	45	9	46	1	Mud and scum	Covered with fine blisters.	Fair; a few rust spots.	Pl. 34, No. 342.	Do.
	342	42	12	43	2½	43	10					
Henry H. Flint, esq., 174 Main street, Post-Office Block, Willimantic, Conn.	349	38	6½	40	11½	41	11	Mud and scum and a few barnacles; paint hard; would not mix and spread well.	do	Small rust spots	Pl. 39, No. 350.	Dark brown.
	350	36	4	38	3½	38	7½					
H. A. Sherman, esq., 43 Fulton street, New York City, N. Y.	365	38	1	38	10	40	4	Mud and scum	Fine blisters and rusty.	Rusty where blistered.	Pl. 33, No. 366.	Dark drab.
	366	40	14½	41	11	43	12½					
Andrew Derrom, esq., Paterson, N. J.	373	36	15	39	0	40	3½	Mud and scum; very badly fouled. Works like coal tar.	Good	Well preserved; excellent.	Pl. 38, No. 374.	Black.
	374	42	0½	44	2½	45	1½					
George W. Bailey, esq., No. 32 Burling Slip, New York City, N. Y.	381	35	6	36	5½	36	12	Covered with scum and mud.	A few very fine blisters; a few large rust spots.	Badly pitted in a few spots.	Pl. 38, No. 382.	Green.
	382	39	1½	40	4	40	12					
The Maritime and General Improvement Company, Hay's Manufactory, Milbrook, near Southampton, England (sample B).	409	41	2	41	9½	43	7	Covered with scum and mud and a few mussels.	Covered with rust spots.	Very badly rusted	Pl. 40, No. 410.	
	410	39	12½	40	1½	41	12					
National Paint Works, Williamsport, Pa.	411	40	1	38	13½	41	6½	Covered with scum and mud.	do	do	Pl. 40, No. 412.	Asphaltum paint.
	412	38	8½	40	6	42	6½					
Hay's Anti-Fouling Composition, Maritime Improvement Company, near Southampton, England (sample 2).	413	33	7	33	12	34	8½	do	Some large blisters; life of paint all gone; washed off in cleaning.	Badly pitted where rusted.	Pl. 40, No. 414.	
	414	38	0½	38	4½	39	5					
First coat, red lead; second coat, white zinc in oil on one side, the other side white zinc in spirits of turpentine.	415	39	2	(*)		40	14½	Covered with thin scum; zinc and oil side clean except as above; very little kelp on side painted with zinc and spirits turpentine.	Zinc nearly all worn off on both sides.	Fine rust spots; red lead not sufficient protection for iron.	Pl. 40, No. 415, zinc and spirit side.	
First coat, red lead; second coat, lampblack in spirits of turpentine, one side.	416	41	3	(*)		44	4	Grass had commenced to grow; some blistered.	Some blistered; large spots (bunches) of rust.	Pitted and rusty	Pl. 40, No. 416.	
First coat, red lead; second coat, yellow ocher in oil, one side.	416	41	3	(*)		.....		Badly rusted; grass had commenced to grow.	Badly rusted	do	Pl. 39, No. 416.	

*Weight not taken.

U. S. S. Speedwell, United States Navy-Yard, Norfolk, Va.

When painted: August 20, 1885. *When immersed:* September 4, 1885. *When redocked:* July 8, 1886. *Length of exposure:* 10 months and 4 days.

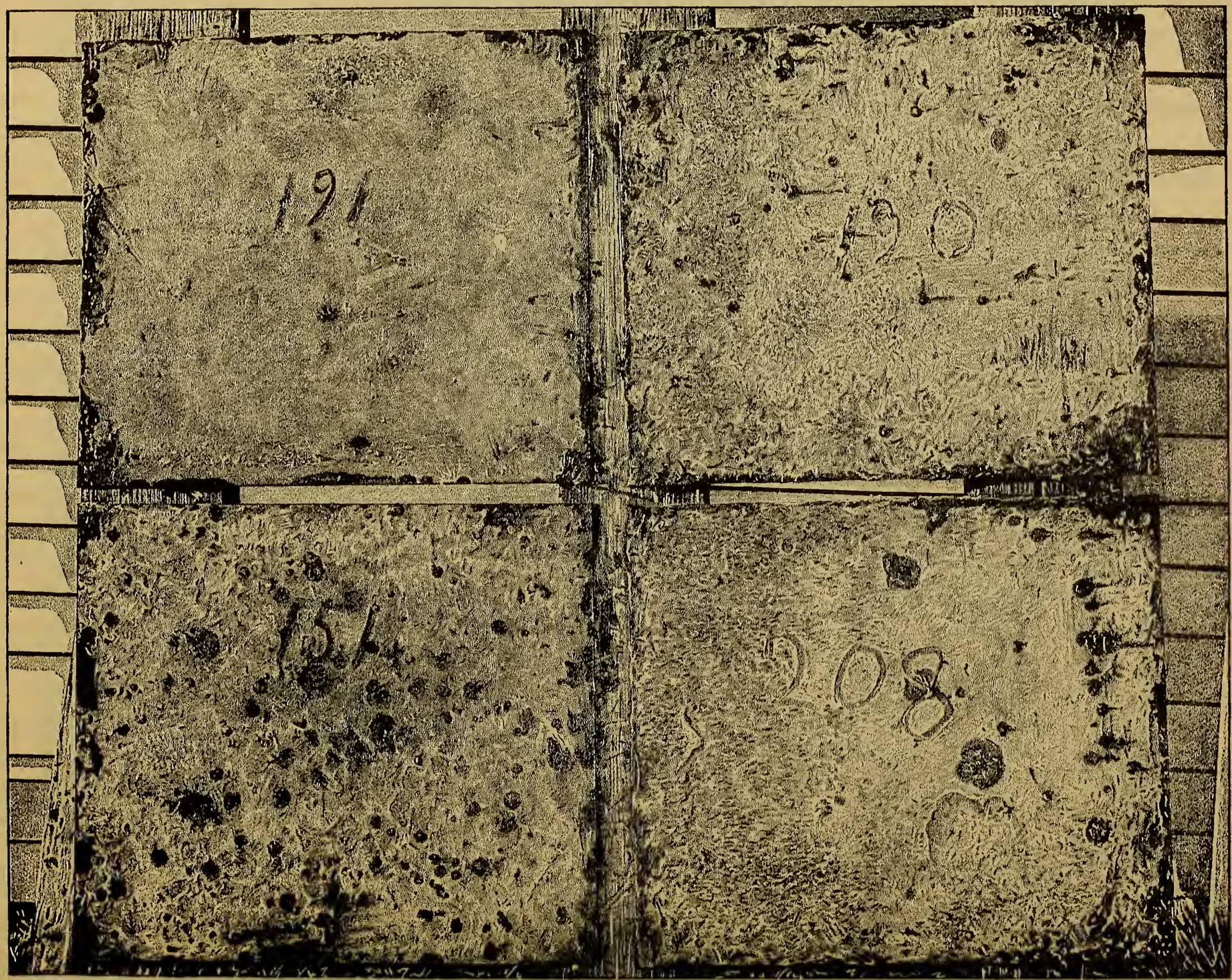
Name of maker or agent.	Condition of section on removal from water.	Condition of paint on removal of fouling.	Condition of iron on removal of paint.	Photograph section.	Color of paint.
Two coats of white zinc	Very clean	Paint in excellent condition.	No evidence of corrosion	Pl. 48, No. 399	White.
First coat of red lead, second coat of white zinc.	Very little fouling; no barnacles.	Paint about one-half worn off.	do	Pl. 48, No. 395	Do.
Messrs. Frederick Devoe & Co., corner Fulton and William streets, New York City, N. Y.	Very little fouling	Fair condition	Pin-hole rust spots commenced.	Pl. 42, No. 115	Pea green.
H. F. Tainter, esq., No. 281 Pearl street, New York City, N. Y.	Very little moss; a very few barnacles.	Commenced to peel as soon as dry.	No rust	Pl. 43, No. 155	Lead color.
P. G. West, esq., No. 617 West Fourth street, Wilmington, Del.	Very few barnacles	Paint well worn	Very slight show of rust.	Pl. 42, No. 83	Cream or flesh color.
David Jones, esq., No. 305 Grove street, Jersey City, N. J.	A very few barnacles and a little moss.	do	Very small rust spots	Pl. 45, No. 275	Stone color.
William B. Adams, esq., No. 225 West Fourteenth street, New York City, N. Y.	A few barnacles and a little moss.	Paint fair	No corrosion	Pl. 44, No. 187	Lead color.
Experimental paint	Well covered with barnacles	Paint good	do	Pl. 41, No. 3	Black.
Messrs. J. W. & F. R. Heard, Infantry Building, Providence, R. I.	About one-half covered with barnacles.	Paint all gone	Rusty	Pl. 41, No. 11	Green.
Essex Paint Company, Essex, Conn	About three-eighths covered with barnacles.	Paint fair	No corrosion	Pl. 41, No. 19	Dark brown.
Hartman, Le Doux & Maeker, No. 134 Pearl street, New York City, N. Y.	Covered with barnacles	do	A few rust spots	Pl. 41, No. 27	Chocolate.
The Bridgeport Wood Finishing Company, No. 40 Bleecker street, New York City, N. Y.	About one-third covered with barnacles.	Paint nearly all gone	Covered with fine rust spots.	Pl. 41, No. 35	Black.
Samuel Williams, esq., No. 181 South street, between Roosevelt street and James Slip, New York City, N. Y.	A few barnacles	do	Rusty; some pitted	Pl. 41, No. 43	Brown.
Eclipse Oil Company, No. 50 South street, New York City, N. Y.	About one-third covered with fine barnacles.	do	Covered with rust spots.	Pl. 41, No. 51	Black.
M. Hubbe, esq., Hall's Excelsior Bottom Paint, No. 164 Maiden Lane, New York City, N. Y.	Covered with large and small barnacles.	do	Rusty	Pl. 41, No. 59	Dark brown.
Henry Devens, esq., Brattleboro, Vt	Covered with barnacles and moss; moss from three to four inches long.	Paint very little to be seen	do	Pl. 41 and 42, No. 67.	Chocolate.
Canton Paint and Oil Company, No. 160 Congress street, Boston, Mass.	do	Paint all gone	Very rusty	Pl. 42, No. 75	Dark brown.
Joseph S. Paxon, esq., No. 301 South Fortieth street, Philadelphia, Pa.	Covered with barnacles and moss; moss three-quarters inch long.	Very little paint	Commenced to rust	Pl. 42, No. 91	Red lead.
New York Silica Paint and Color Company, Nos. 31 and 33 South Fifth street, Brooklyn, E. D., N. Y.	Covered with moss, with a few barnacles.	do	More rust than No. 91	Pl. 42, No. 107	Crocus.
Joseph Hertzhog, esq., No. 1118 Palmer street, Philadelphia, Pa.	About one-half covered with barnacles and moss.	Commenced to peel as soon as dry.	No corrosion	Pl. 42, No. 123	Dark green.
Howard H. Paul, esq., No. 105 Fulton street, Boston, Mass.	Covered with barnacles and moss.	Paint all gone	Very rusty	Pl. 42, No. 131	Brown.
William M. Baxter & Co., No. 252 Pearl street, New York City, N. Y., P. O. box, 3154.	do	do	do	Pl. 43, No. 139	Black.
Messrs. G. & R. Hutson, No. 214 West street, New York City, N. Y.	Covered with barnacles; a little moss.	Commenced to peel as soon as dry.	No corrosion	Pl. 43, No. 147	Bronze green.
The Insulated Fibrous and Waterproof Paint Company, C. T. Reynolds & Co., agents, Nos. 106 and 108 Fulton street, New York City, N. Y.	Covered with large and small barnacles, and moss three inches long.	Paint good	do	Pl. 43, No. 163	Black or dark blue.
Messrs. Janentzky & Weber, No. 1125 Chestnut street, Philadelphia, Pa.	Covered with barnacles and moss	do	do	Pl. 43, No. 171	Vermilion.
H. Lerner, esq., Goshen Bridge, Va	Covered with barnacles and very long moss.	Paint nearly all gone	Commenced to rust	Pl. 43, No. 179	Brown.
H. Thompson & Co., No. 95 Merrow street, Walworth, London, S. E.	Covered with barnacles and moss.	Paint good	No corrosion	Pl. 44, No. 195	Red.
A. H. Smith, esq., No. 14 Vesey street, New York City, N. Y.	Covered with moss; a few barnacles.	do	do	Pl. 44, No. 203	Black.
John E. White & Co., No. 221 Pearl street, New York City, N. Y.	Covered with fine barnacles; a little moss.	do	do	Pl. 44, No. 211	Drab or gray.
Arthur H. Rice, esq., No. 24 Cliff street, New York City, N. Y.	Covered with moss; a few barnacles.	Commenced to peel as soon as dry.	Commenced to rust	Pl. 44, No. 219	Dark drab.
Paraffine Paint Company, No. 310 California street, San Francisco, Cal.	Covered with barnacles and moss; moss three inches long.	Paint fair	Commenced to rust in small spots.	Pl. 44, No. 227	Black.
John Manning, esq., care of John O'Connel, esq., No. 591 First avenue, New York City, N. Y.	Covered with moss and a few barnacles; moss four inches long.	Paint all gone	Very rusty	Pl. 45, No. 235	Vermilion.
P. K. Dumaresq, esq., No. 144 Greenwich street, New York City, N. Y.	do	Paint good	No corrosion	Pl. 45, No. 243	White.
Liquid Glass Company, Lyme, Conn	Covered with barnacles and moss; moss four inches long.	Paint fair	Commenced to rust in spots.	Pl. 45, No. 251	Black.
C. P. Jones & Co., Ivoryton, Conn	Covered with fine barnacles and very long moss.	do	Rusting in spots	Pl. 45, No. 259	Do.
W. S. Sinclair, esq., No. 14 William street, New York City, N. Y.	About one-half covered with barnacles and moss; moss four inches long.	do	Small rust spots	Pl. 45, No. 267	Dark drab.
National Paint Works, Williamsport, Pa	Covered with barnacles and moss.	Paint all gone	Very rusty and some pitted.	Pl. 46, No. 291	Chocolate.
Messrs. De Last & Co., Montreal, Canada	Covered with large and small barnacles, with a little moss in spots.	Very little paint	Small rust spots	Pl. 46, No. 299	Black.
John C. Griffing, esq., No. 23 South street, New York City, N. Y.	Fifty per cent. better than No. 299.	do	Commenced to rust	Pl. 46, No. 307	Brown.
Henry H. Witmer, esq., Goshen, Ind	Covered with large and small barnacles, with a little moss in spots.	do	Small rust spots	Pl. 46, No. 315	Black.
Seeley Brothers, No. 32 Burling Slip, New York City, N. Y.	Covered with barnacles; a little moss.	Anti-fouler well worn	No corrosion	Pl. 46, No. 323	Green.
Charles A. Woolsey, esq., Jersey City White Lead and Color Works, Jersey City, N. J., P. O. box 295.	do	Paint good	do	Pl. 46, No. 331	Black.
The Howard Weatherproof Paint Company, No. 1½ Cedar street, New York City, N. Y.	Covered with barnacles and long moss.	Paint nearly all gone	Badly rusted	Pl. 47, No. 339	Do.
Henry H. Flint, esq., No. 174 Main street, Willimantic, Conn., Post-Office Block.	do	do	do	Pl. 47, No. 347	Dark brown.
W. S. Crosby, esq., No. 59 South Charles street, Baltimore, Md.	Well covered with barnacles; some moss.	Very little paint	Covered with rust spots.	Pl. 47, No. 355	Brown.

U. S. S. Speedwell, United States Navy-Yard, Norfolk, Va.—Continued.

Name of maker or agent.	Condition of section on removal from water.	Condition of paint on removal of fouling.	Condition of iron on removal of paint.	Photograph section.	Color of paint.
H. A. Sherman, esq., No. 43 Fulton street, New York City, N. Y.	Well covered with barnacles; a little more moss.	Paint nearly all gone	Rusty	Pl. 47, No. 363	Dark drab.
Andrew Derrom, esq., Room 4, No. 209 Main street, Paterson, N. J.	Very foul; covered with barnacles and moss.	No paint	Very rusty	Pl. 47, No. 371	Black.
George W. Bailey, esq., No. 32 Burling Slip, New York City, N. Y.	Covered with barnacles	Anti-fouler nearly all gone	Good; no rust	Pl. 47, No. 379	Green.
Mansfield Economic	Moss four inches long; a few barnacles.	Paint fair	A few small rust spots	Pl. 48, No. 385.	
Hay's Protector Varnish	Covered with barnacles; well covered.	Last coat nearly all gone.	Covered with fine rust spots.	Pl. 48, No. 391.	
Experimental paint, mixed at United States navy-yard, Norfolk, Va.*	Covered with barnacles; a little moss.	do	No rust	Pl. 48, No. 393.	
Two coats of red lead	A few barnacles	Paint fair	do	Pl. 48, No. 397.	

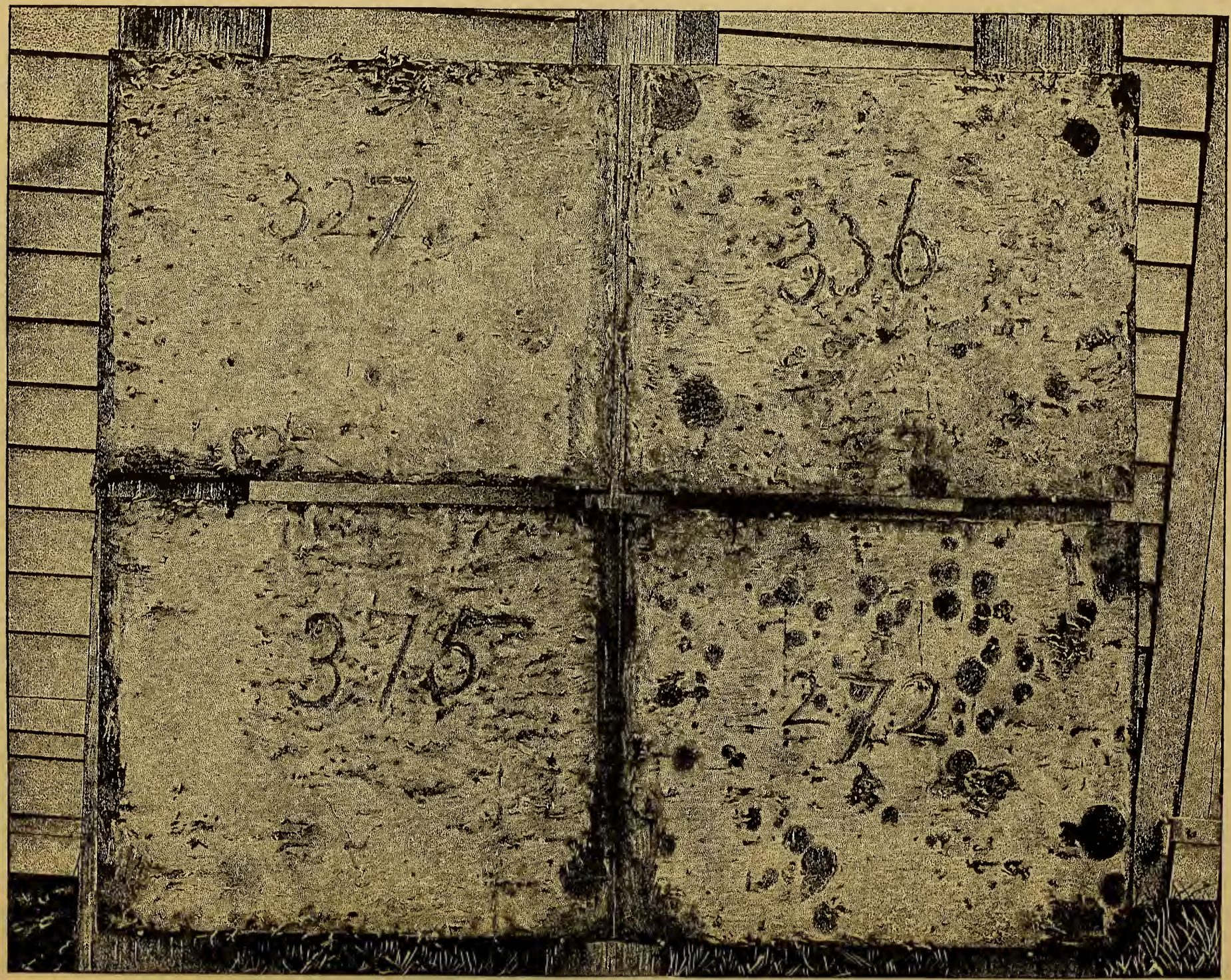
* First coat, two-thirds red lead and one-third zinc; second coat, plumbago, beeswax, tallow, and lampblack, mixed with benzine.

Plate 1

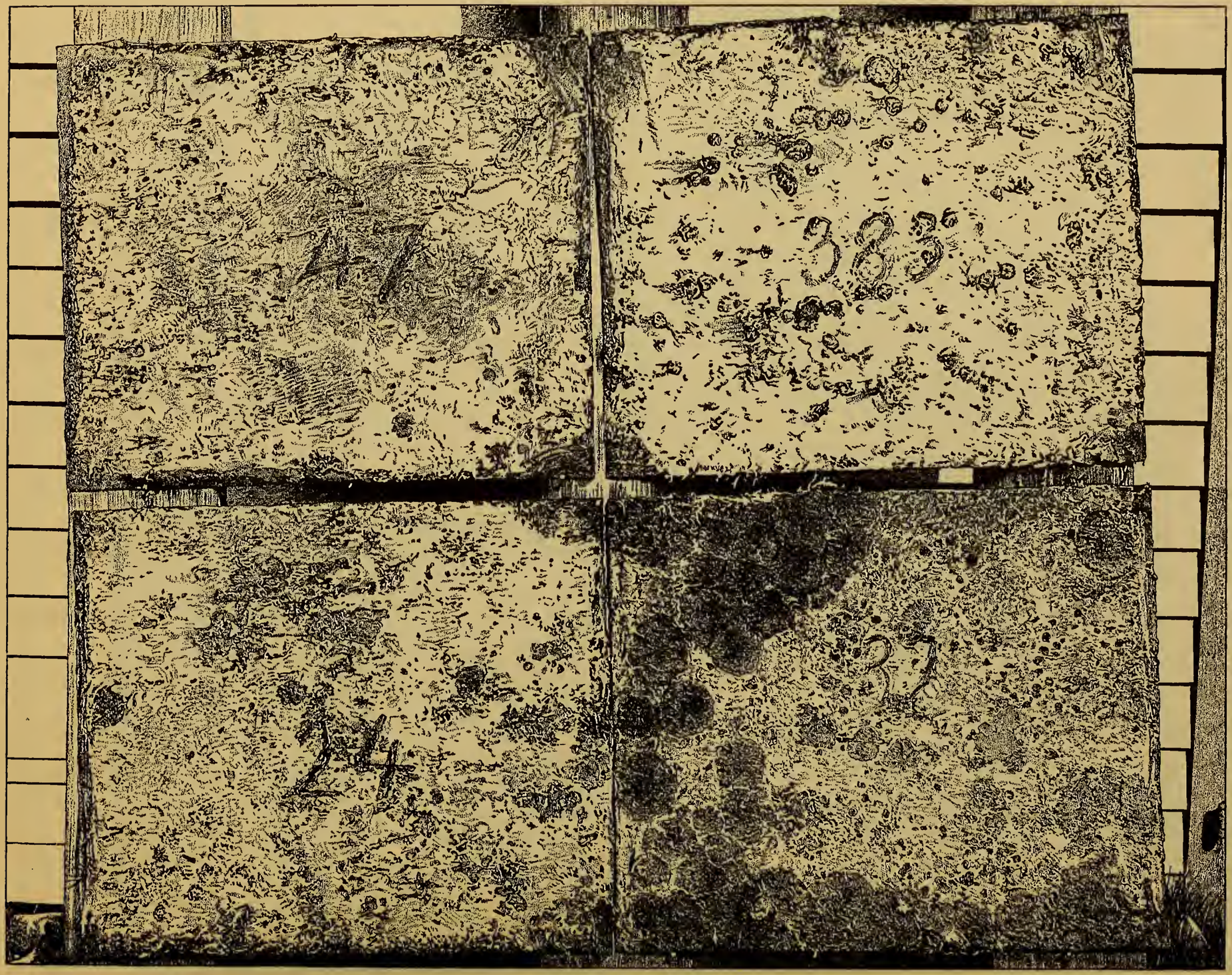


165
96
240
175

Plate 4.

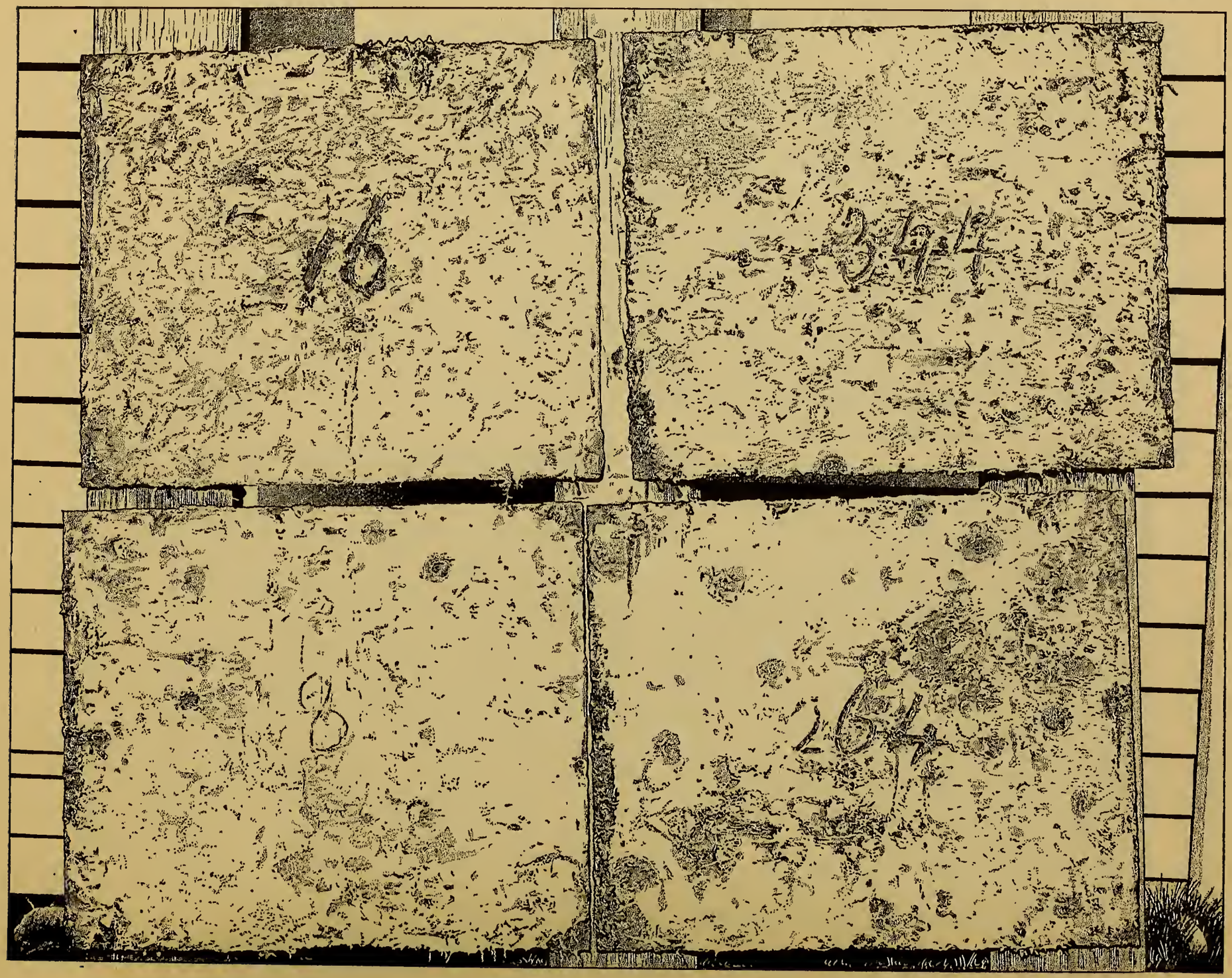


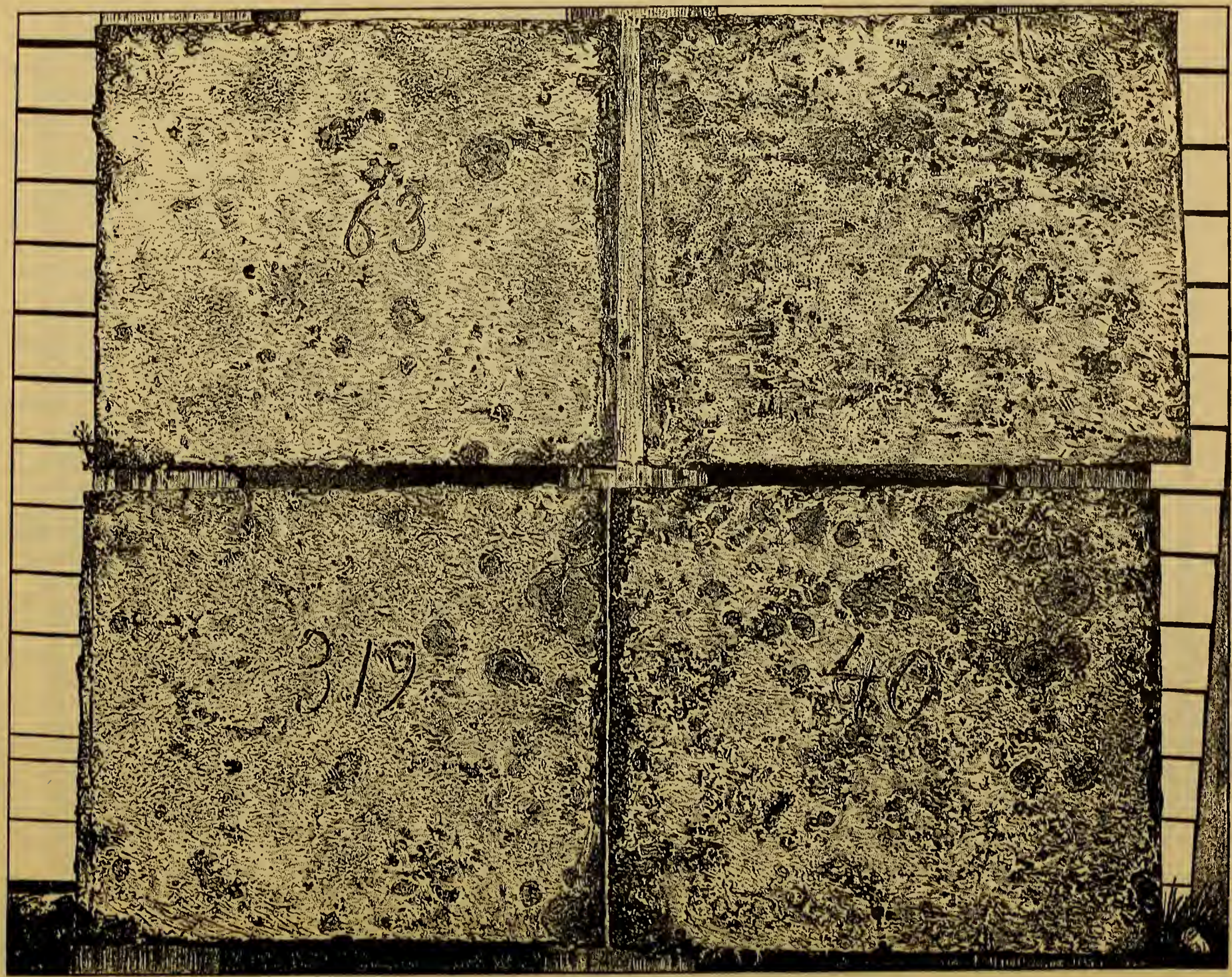
67
135
90
232



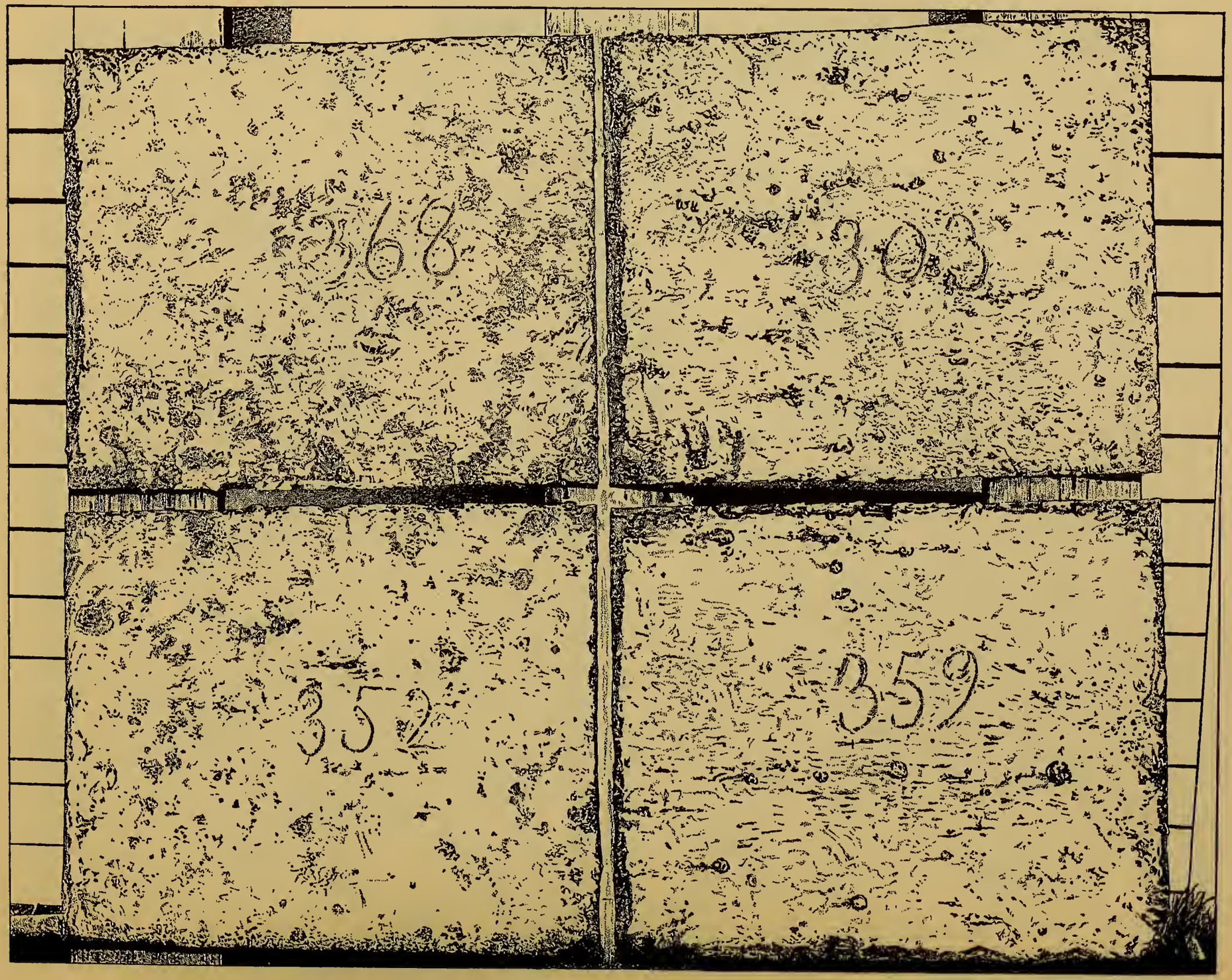
224
191
111
128

183
255
143
160

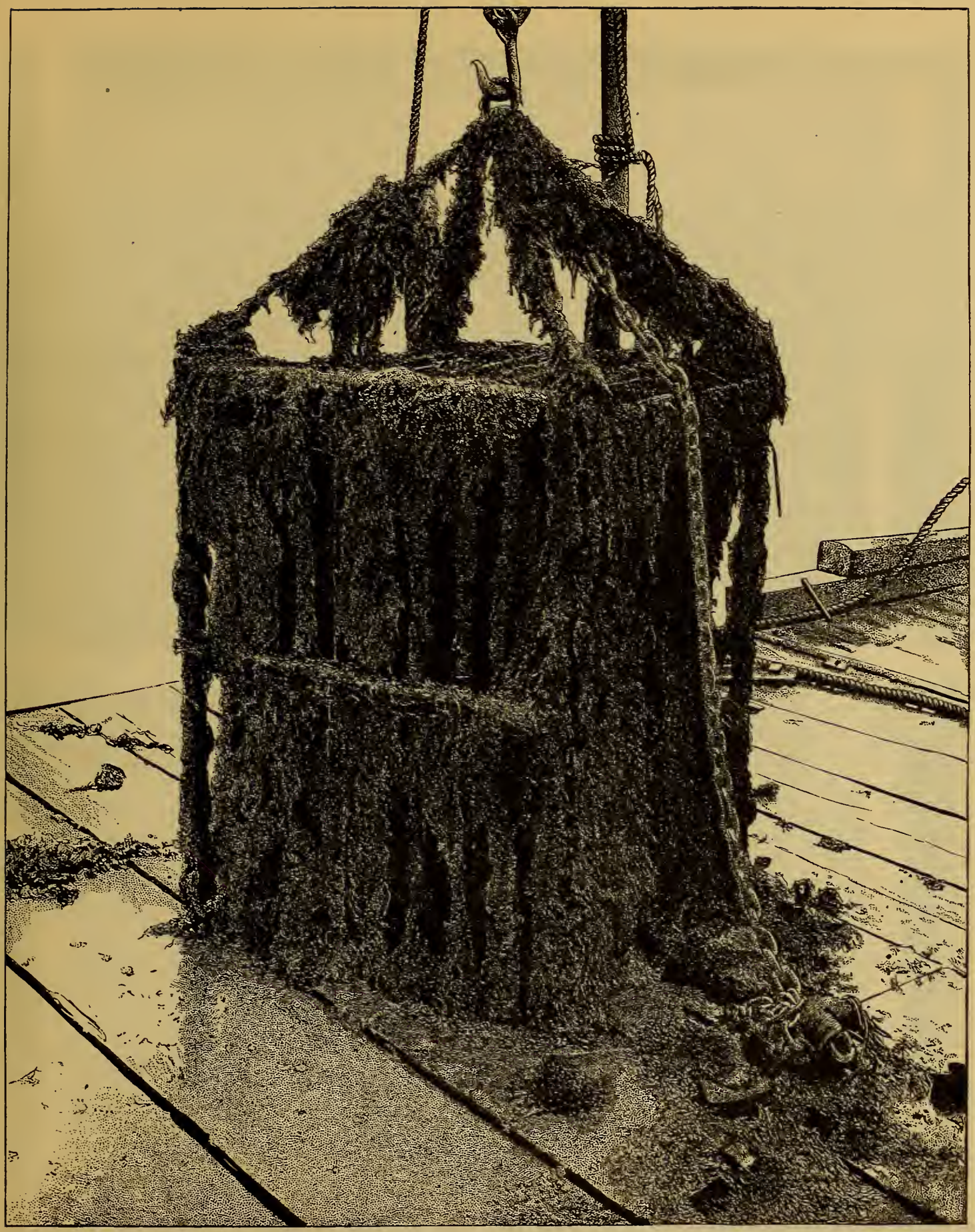


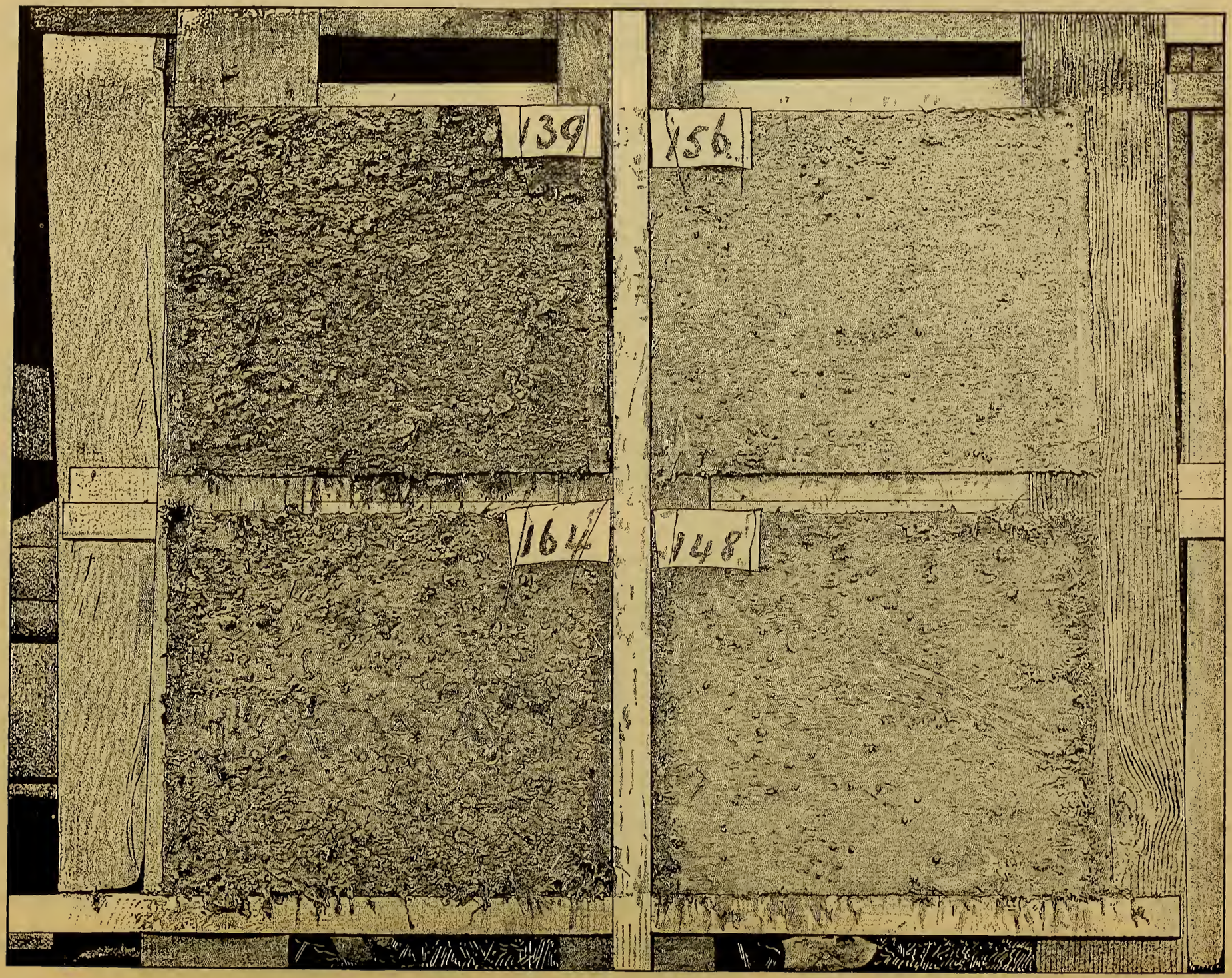

63
280
219
410

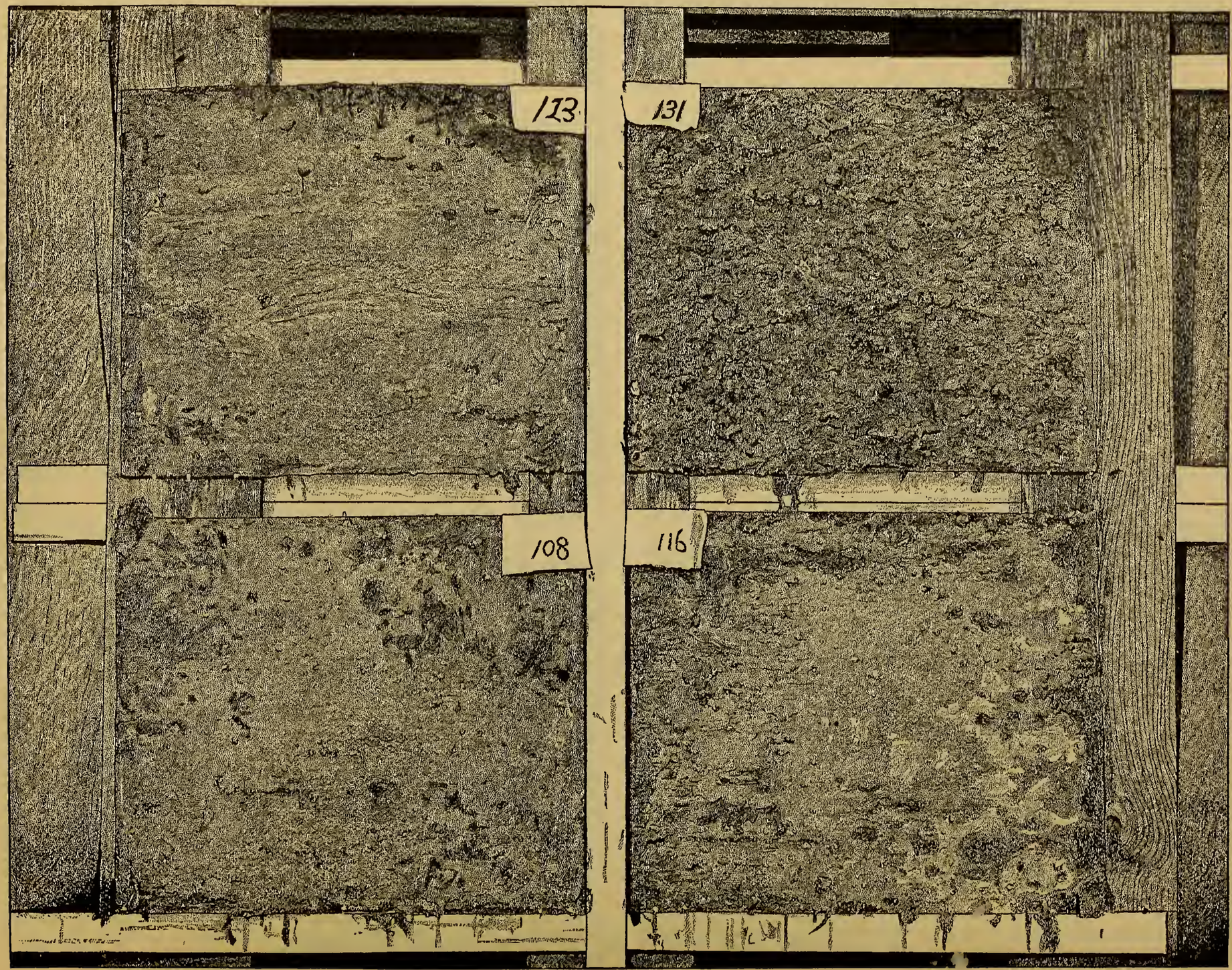
296
407
287
55


368
369
352
359

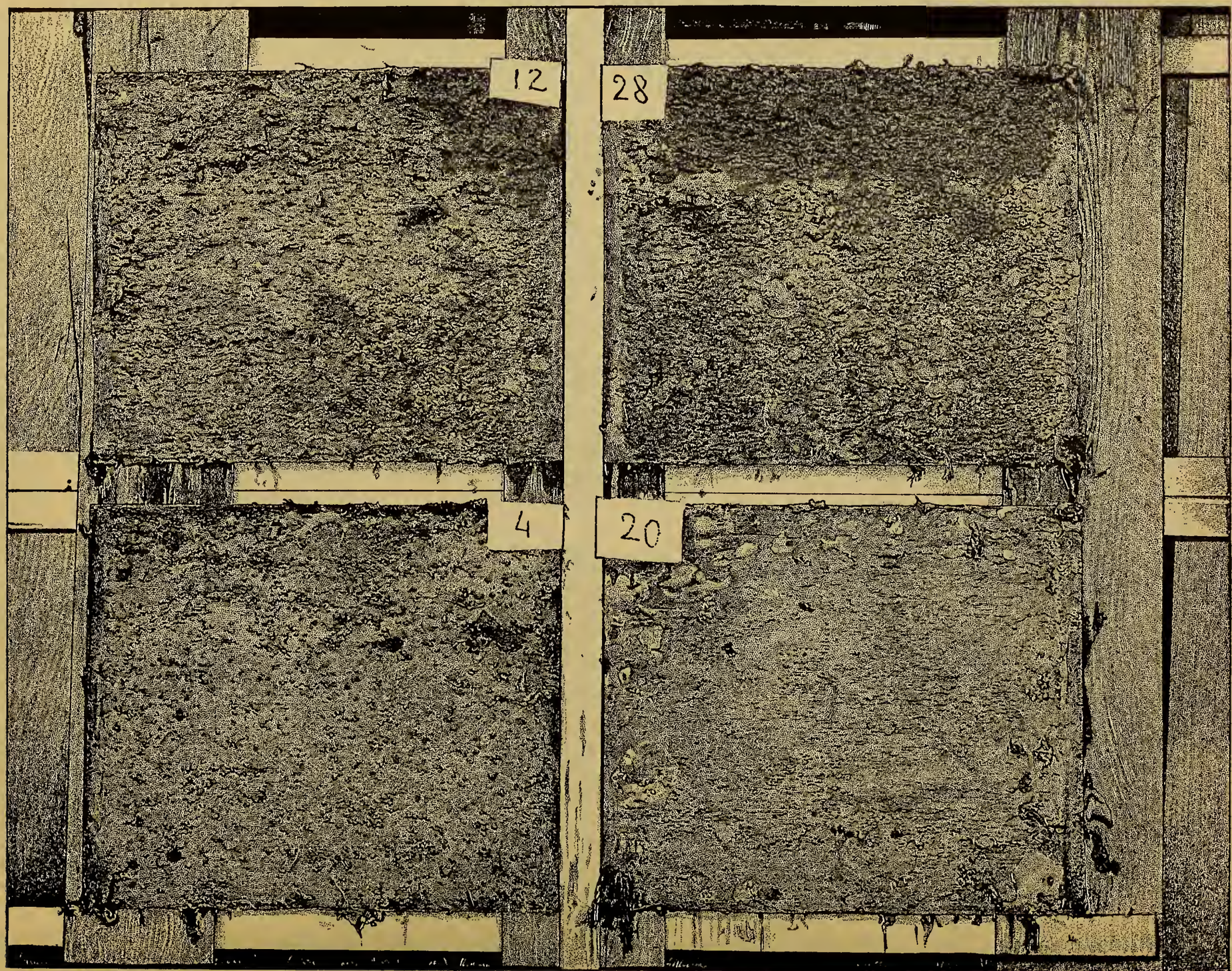
395
402
311
369



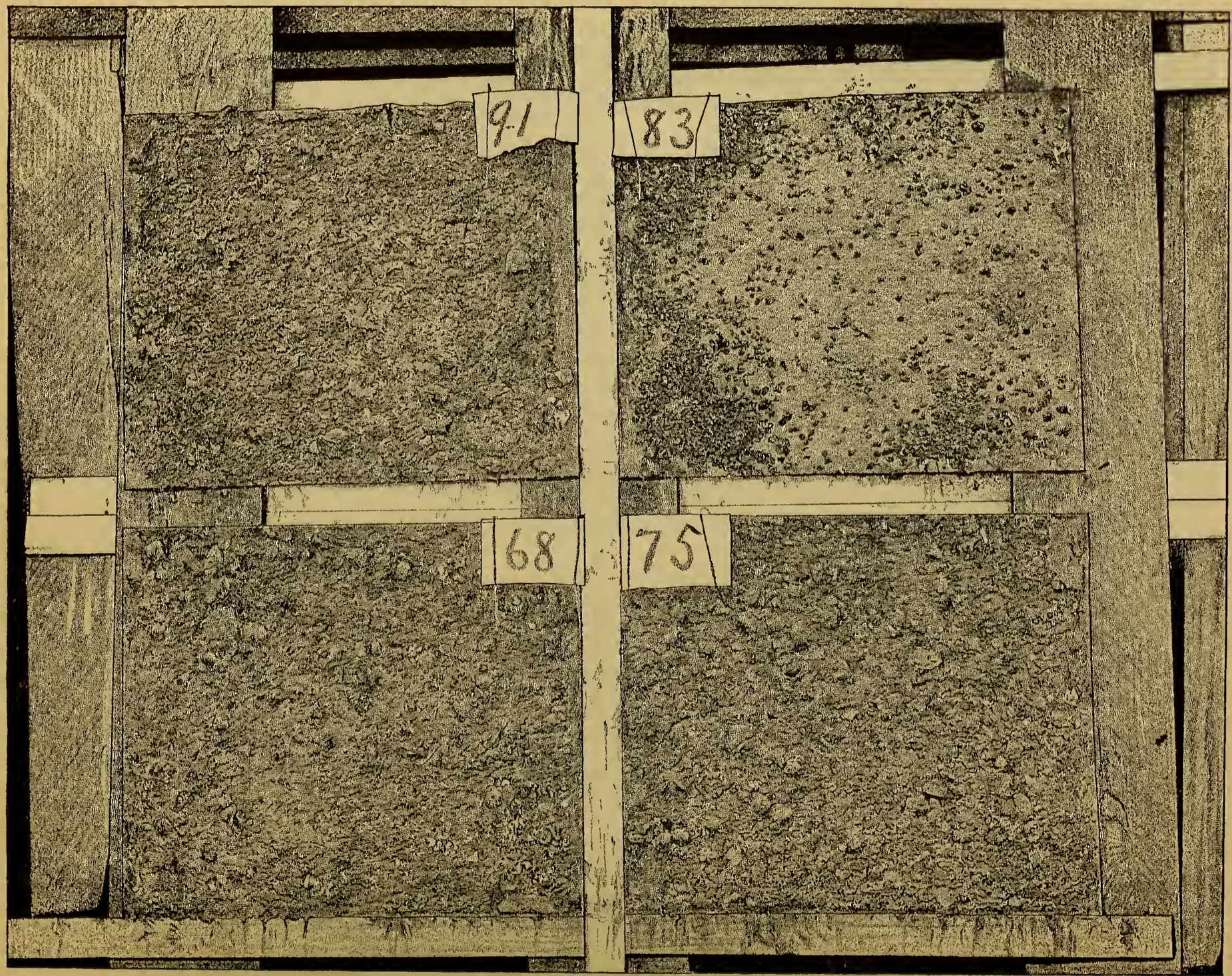

139
156
164
148


123
131
108
116

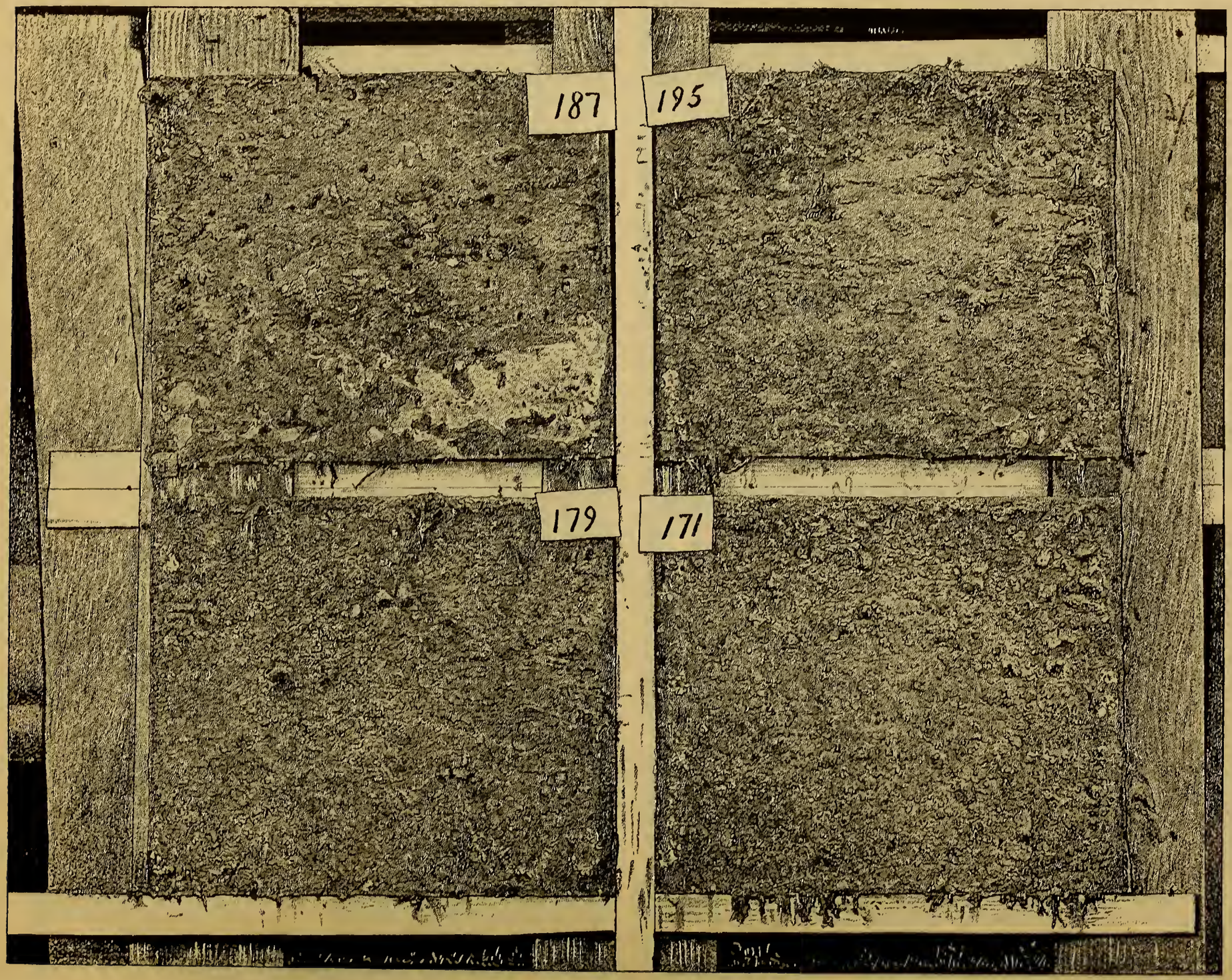
203
211
219
228

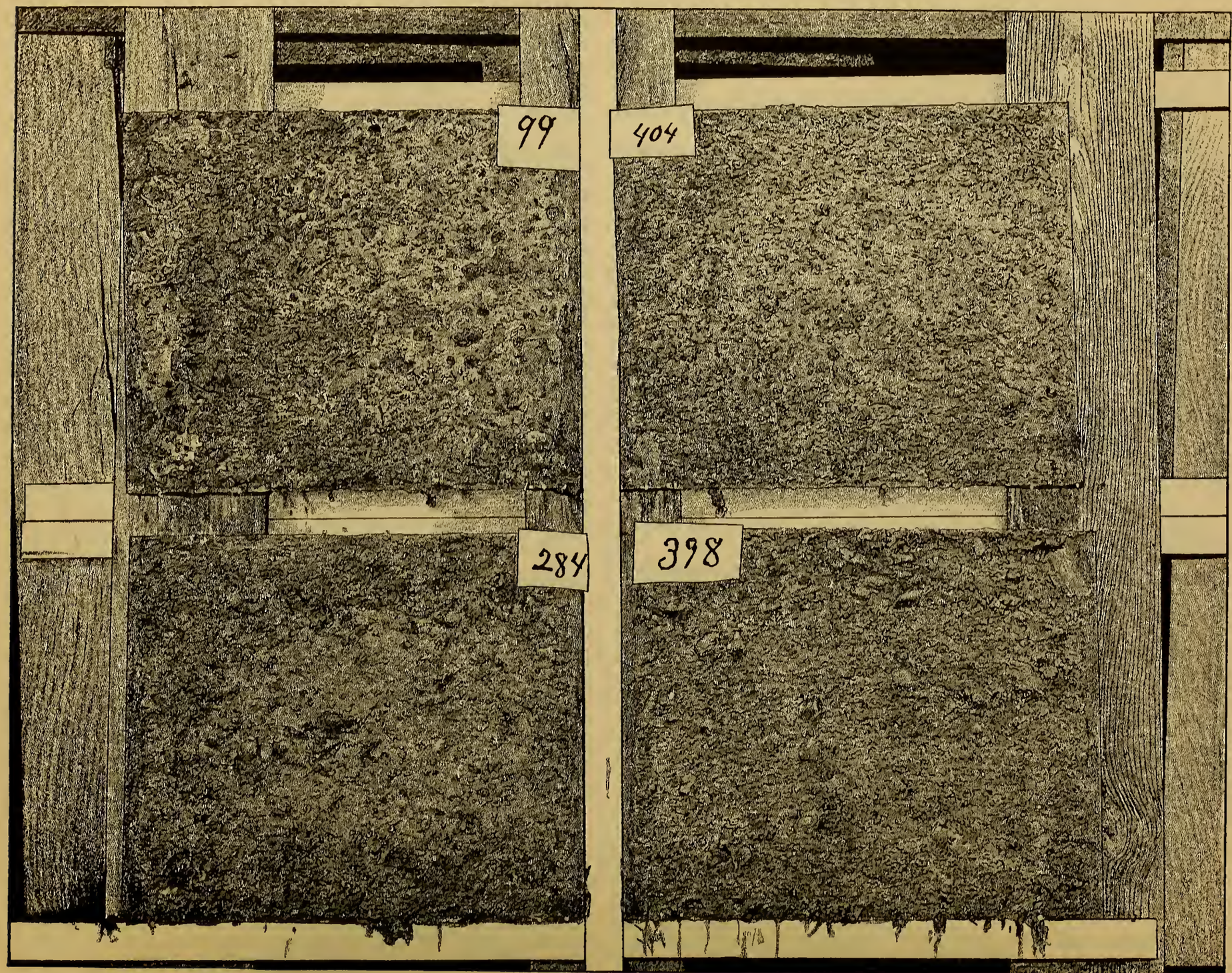

12
28
4
20

300
275
267
292

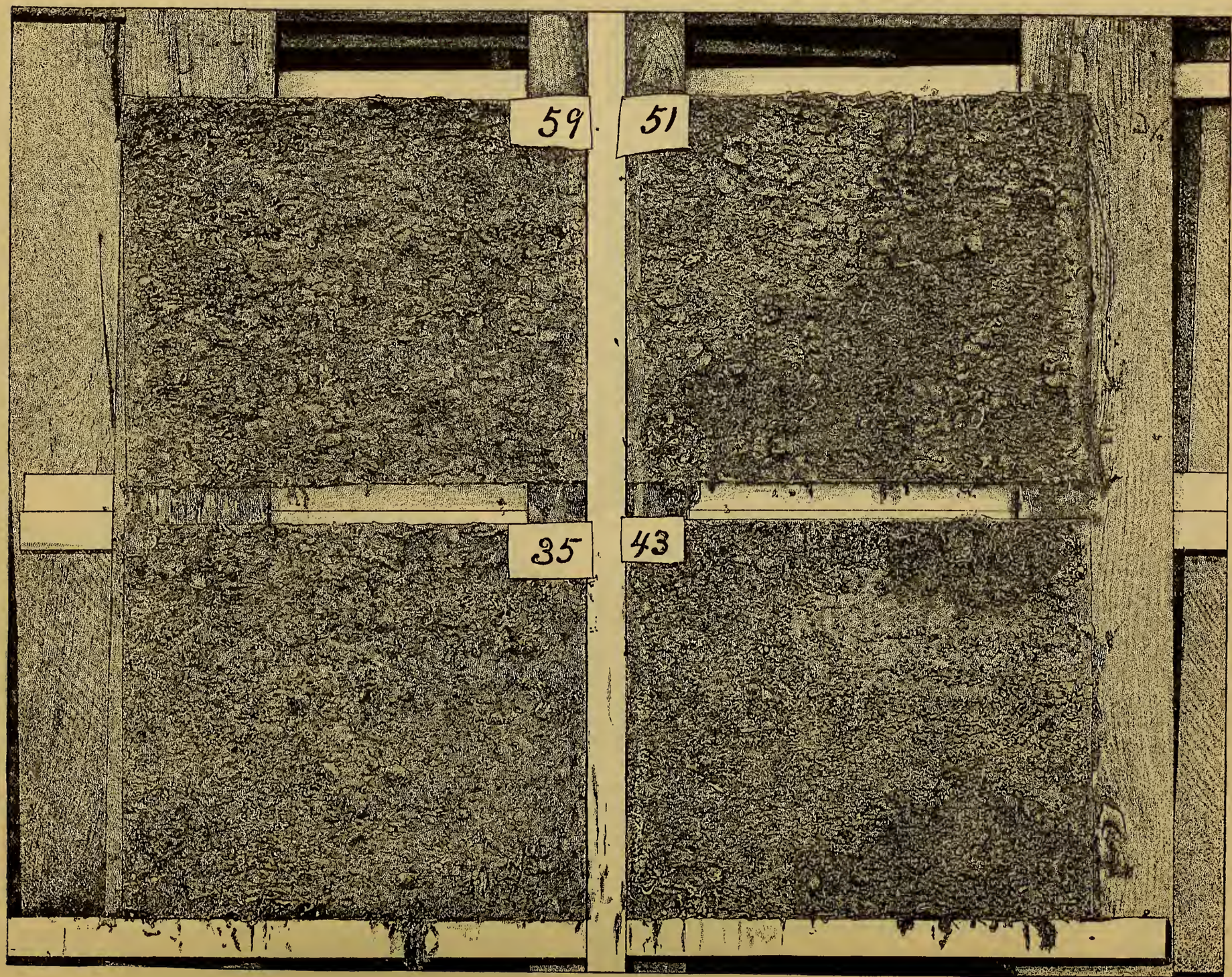

91
83
68
75

236
244
252
260

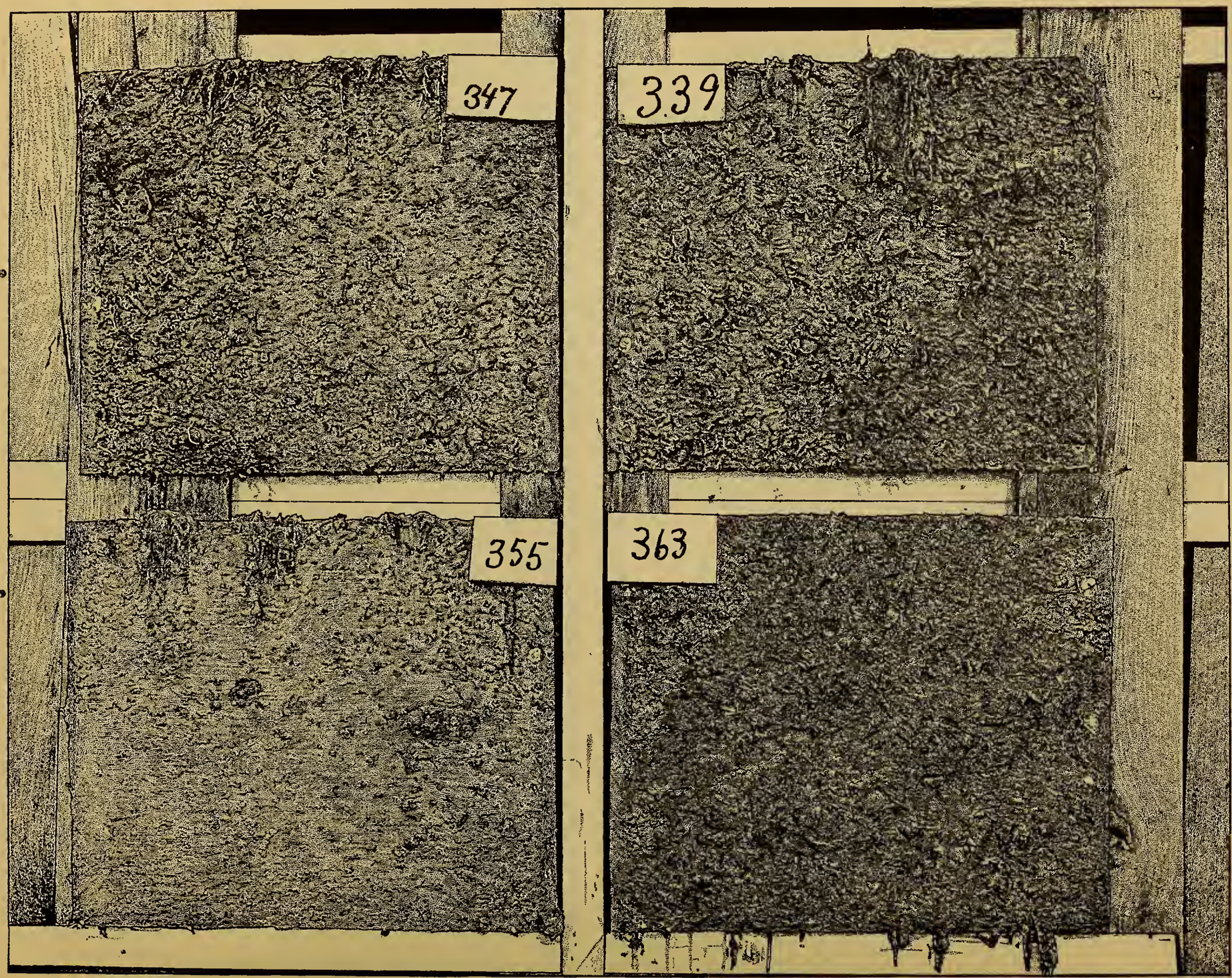

187
195
179
171


99
404
284
398

380
372
392
386


59
51
35
43

315
324
332
308


347
339
355
363

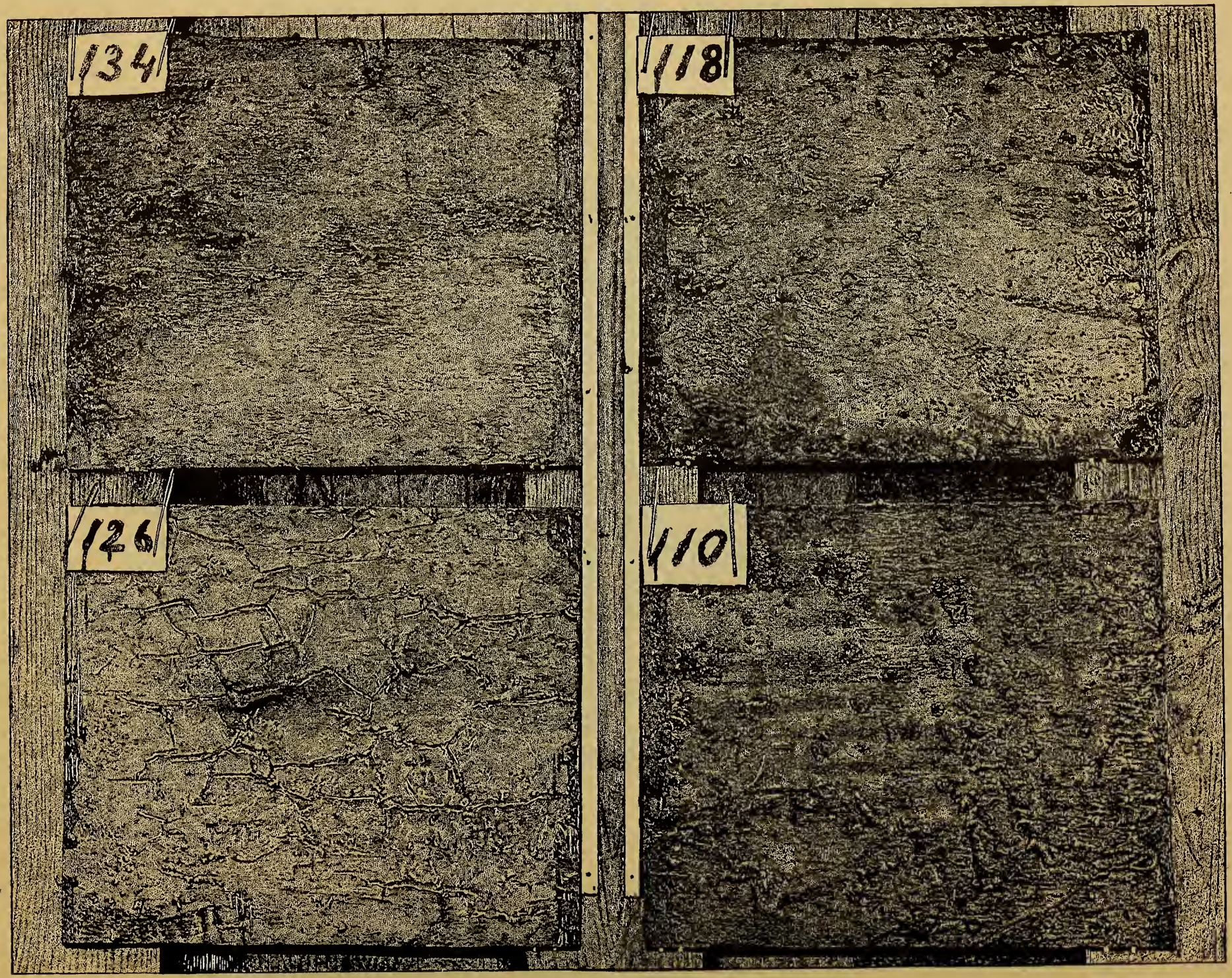
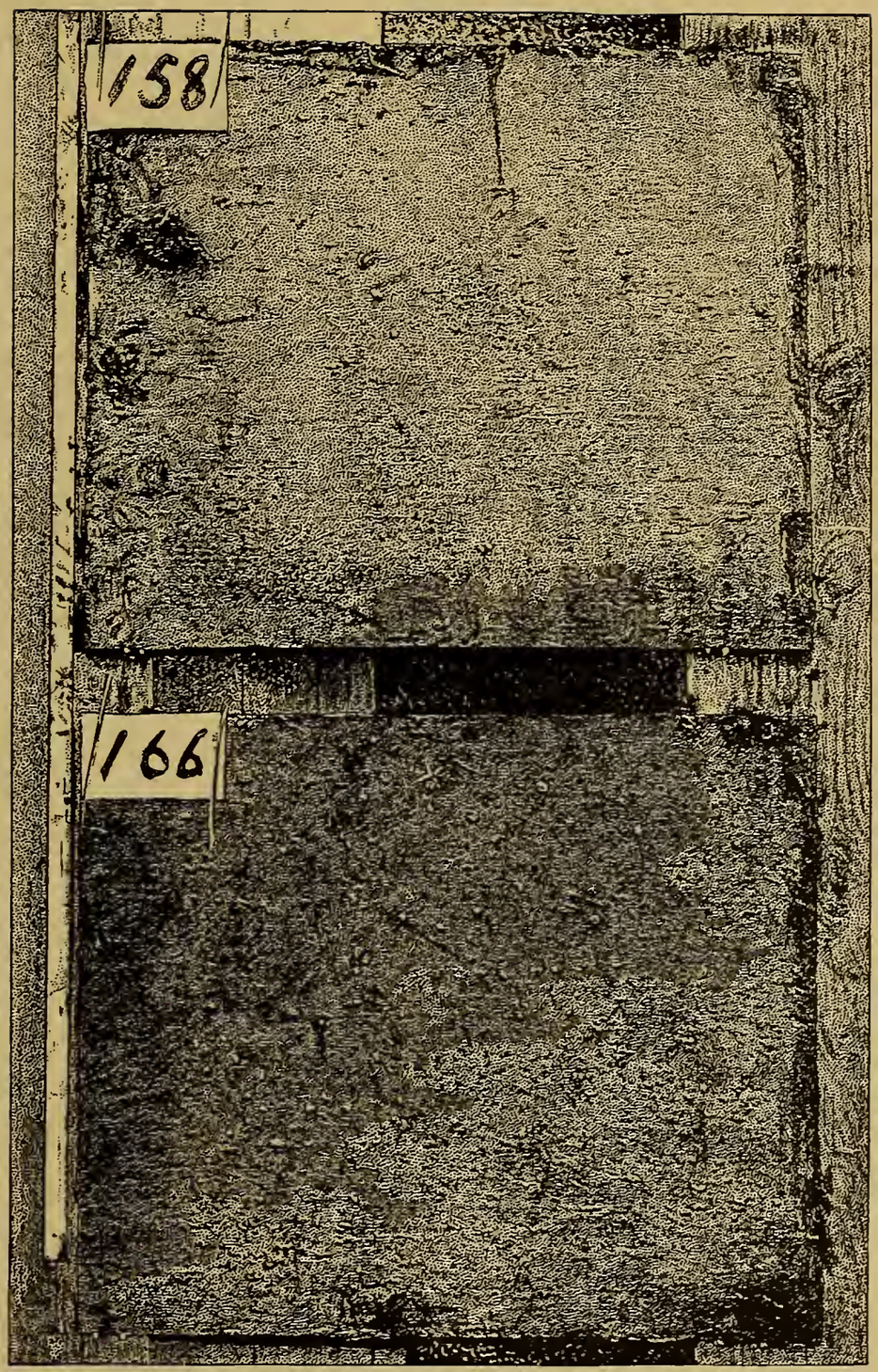
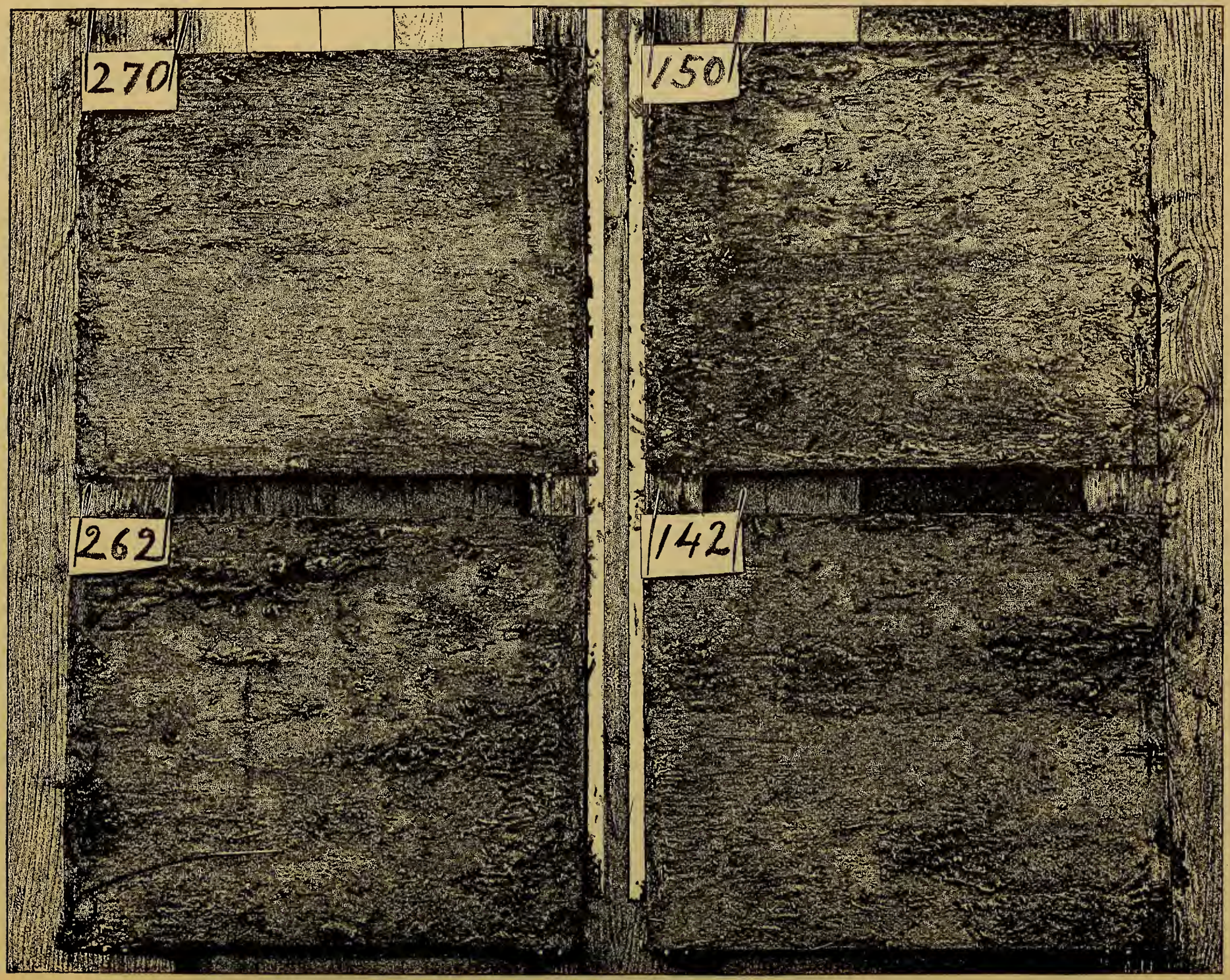
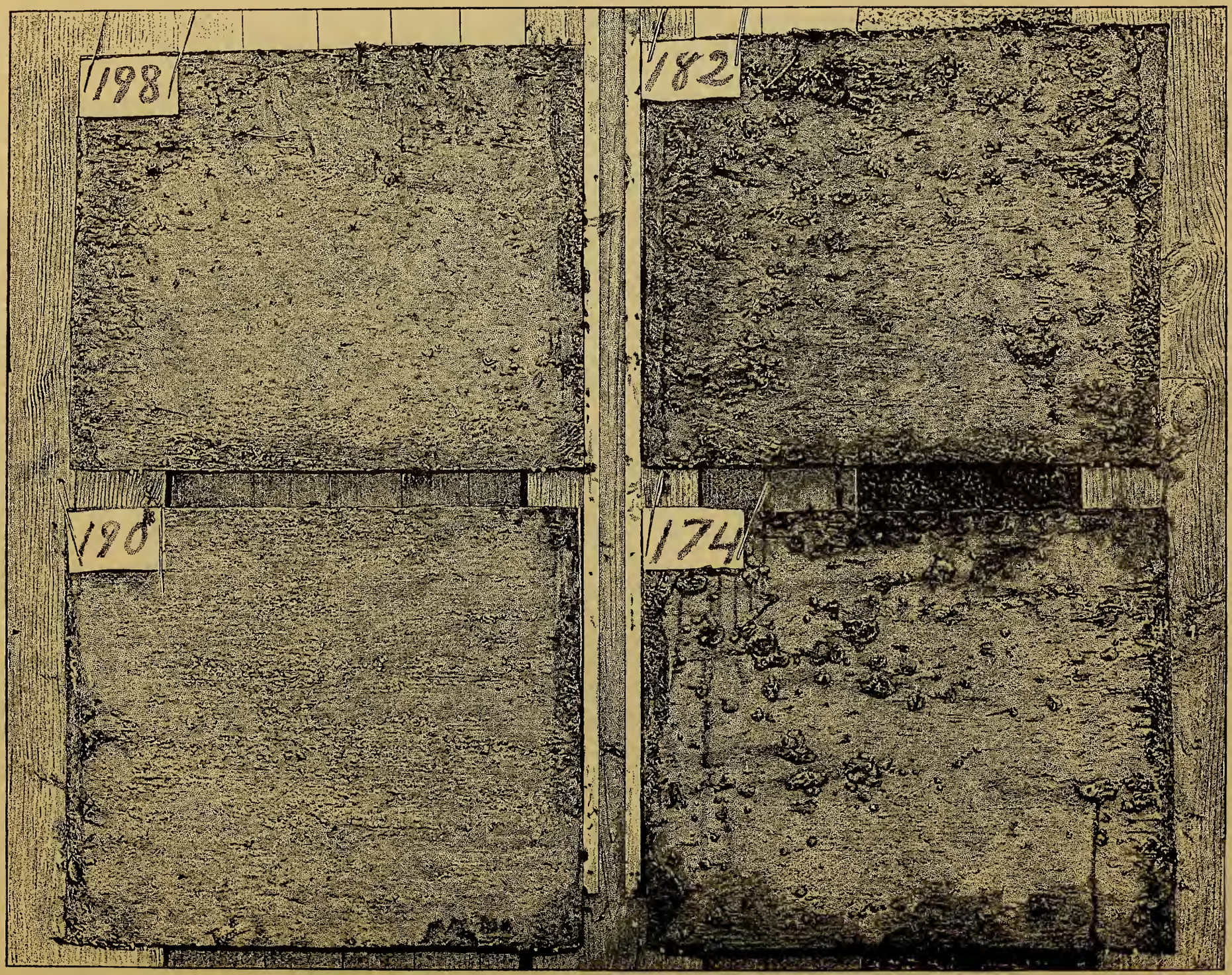
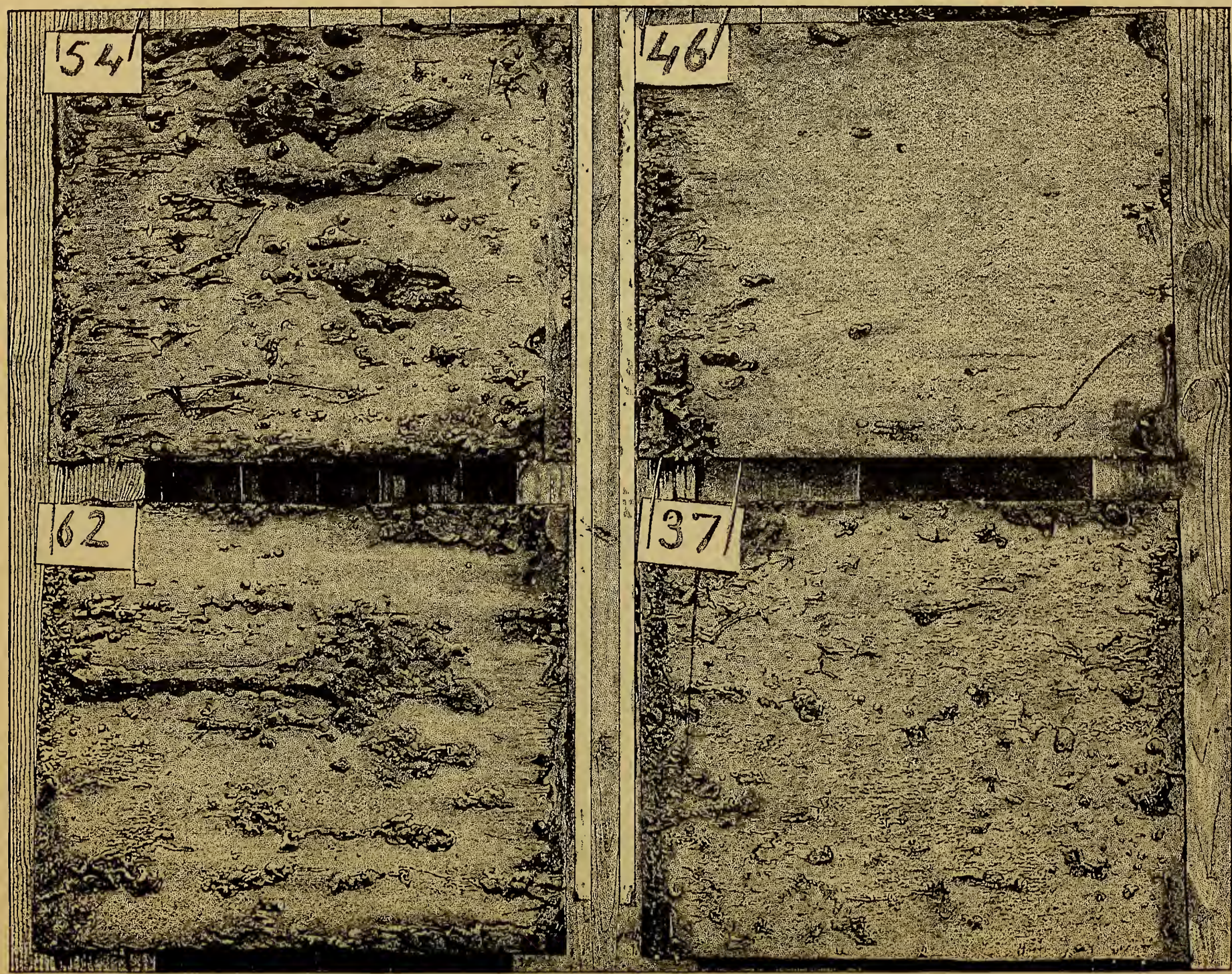

134
118
126
110

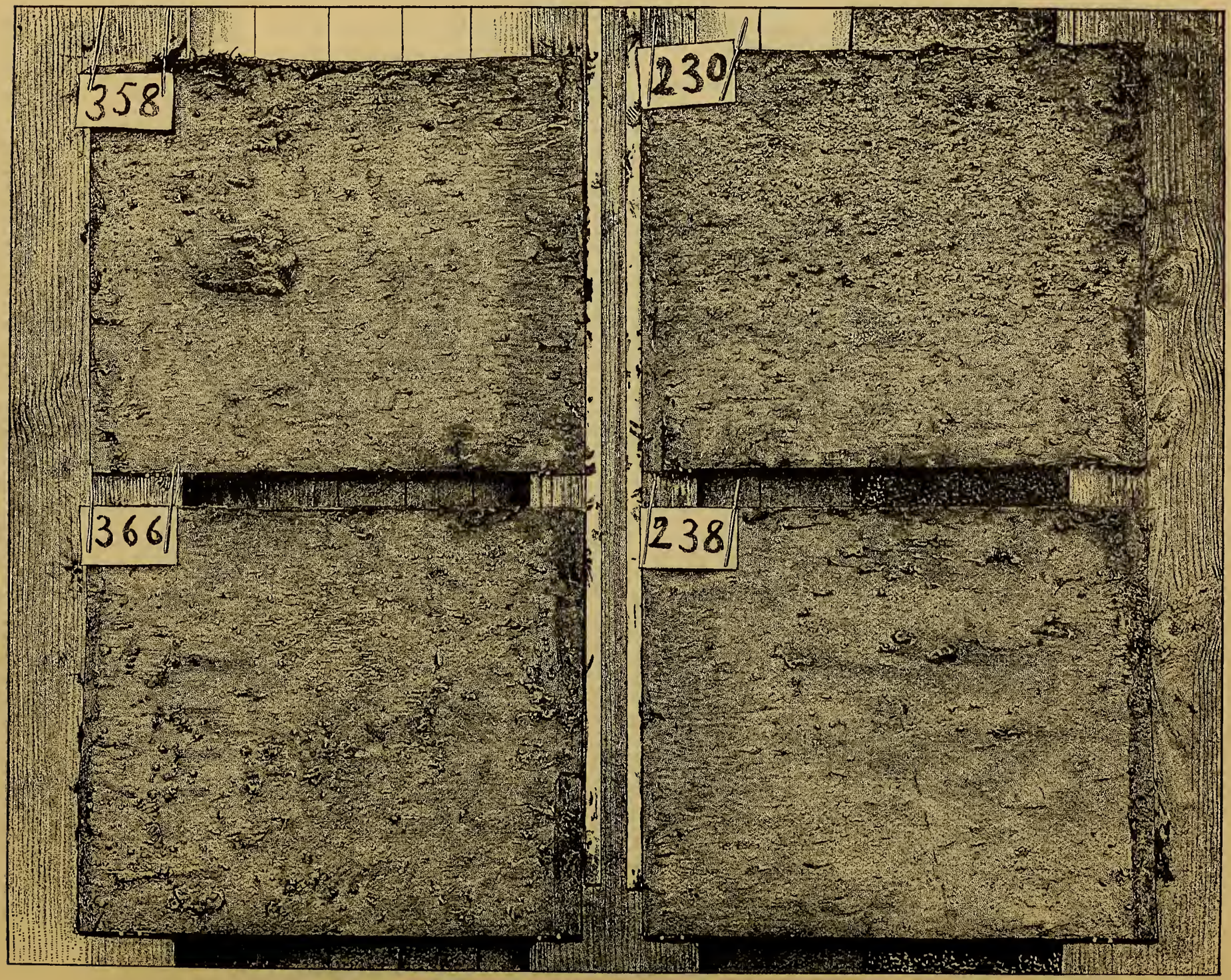
Plate 29.

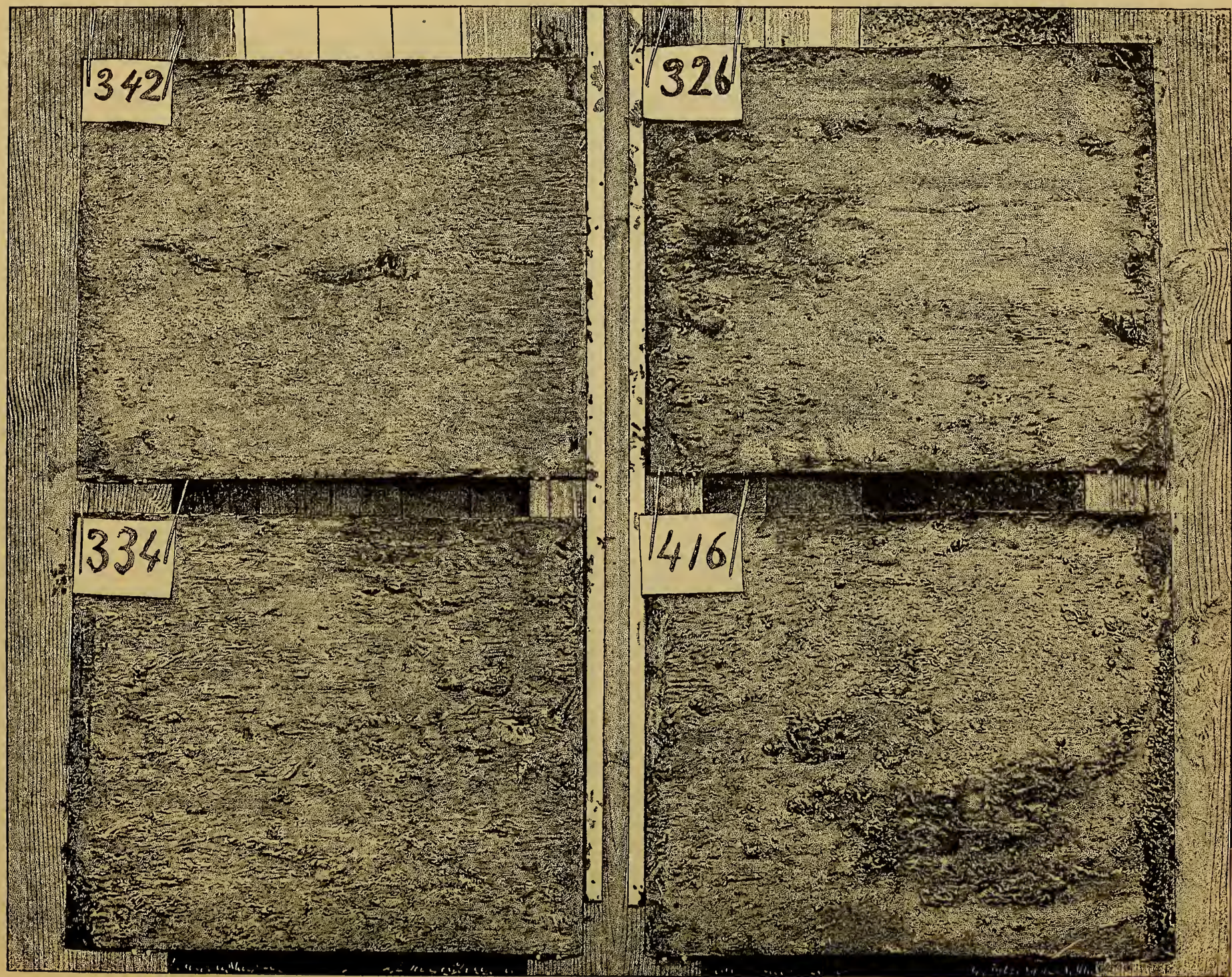



270
150
262
142

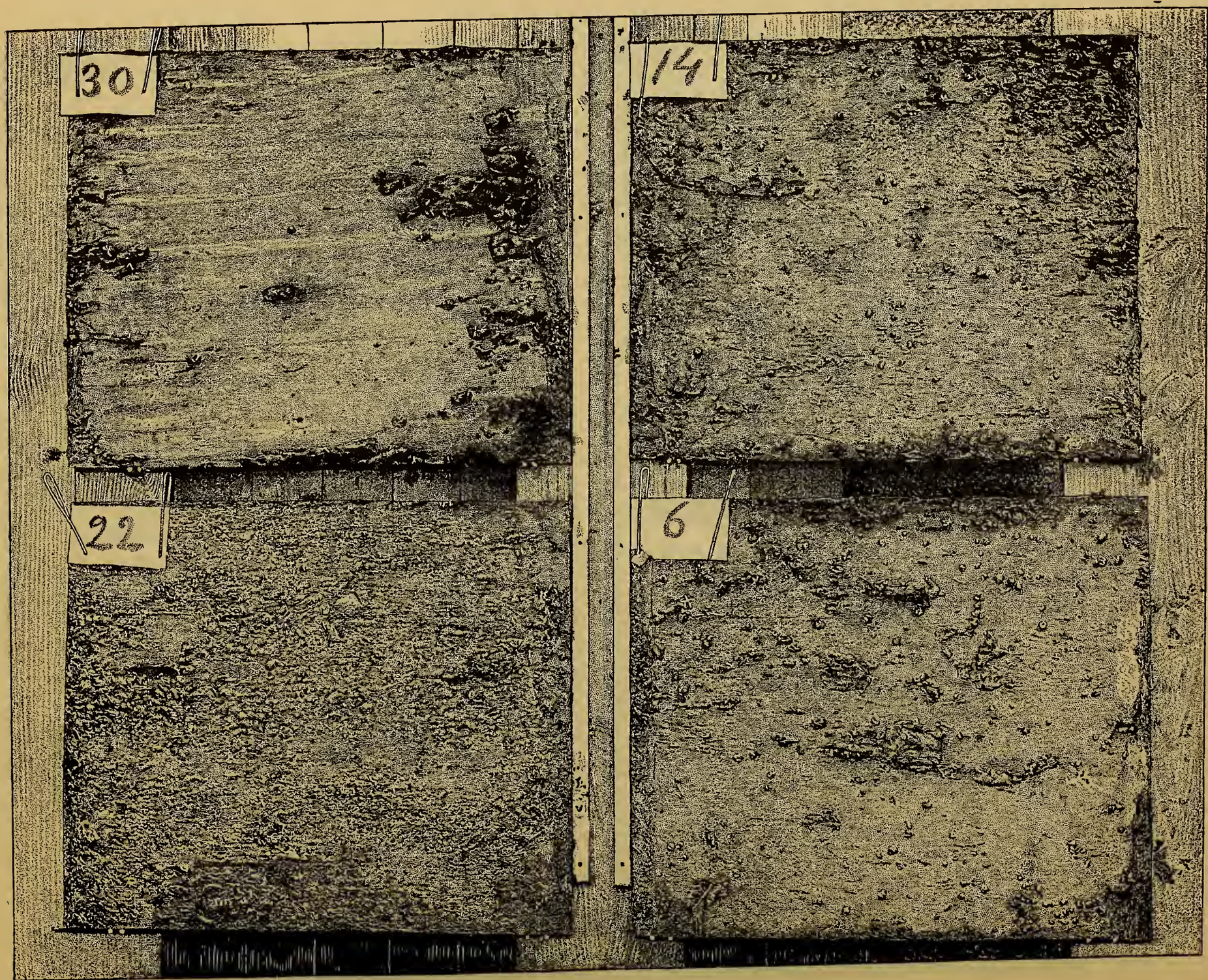

198
182
190
174

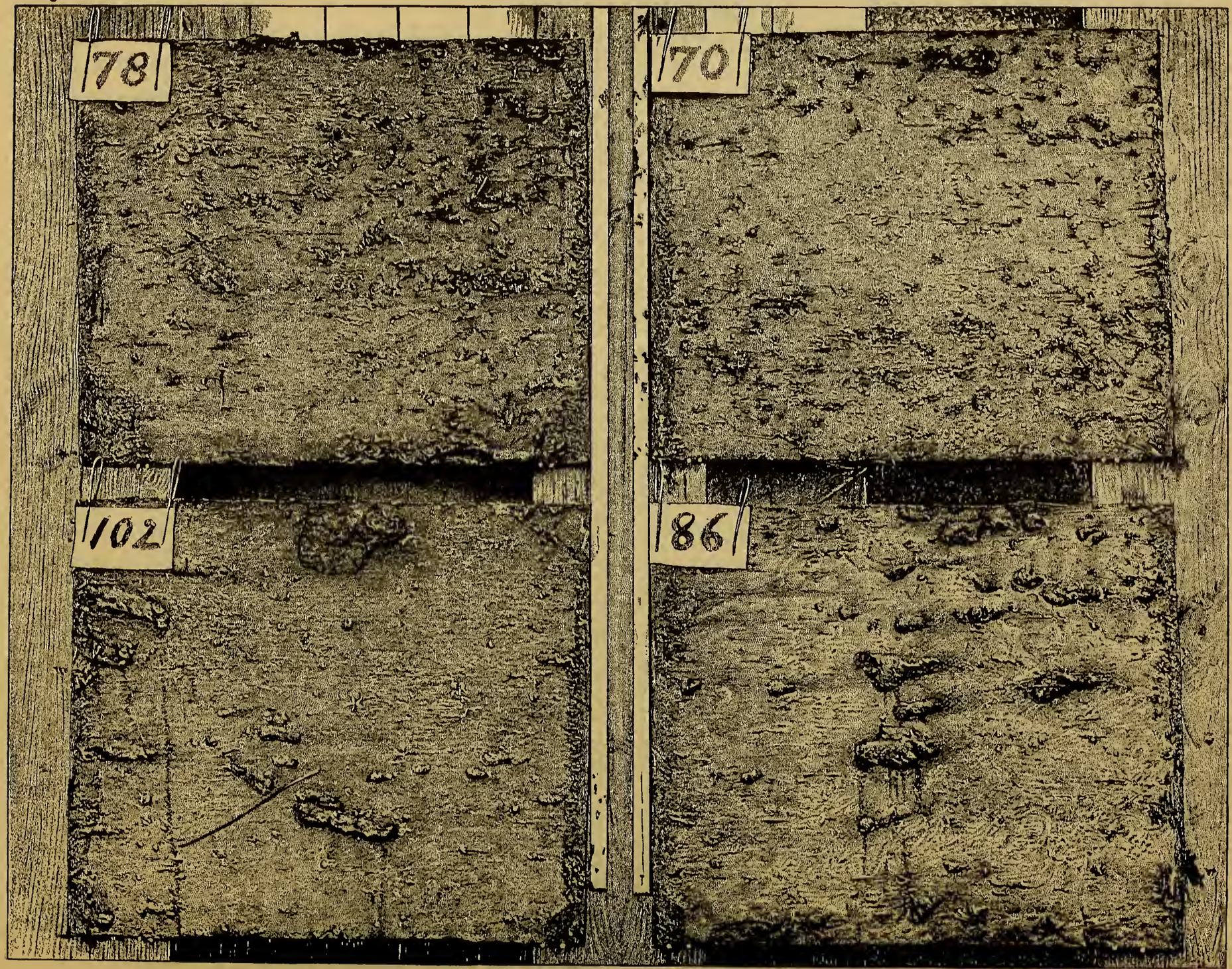

54
46
62
37


358
230
366
238

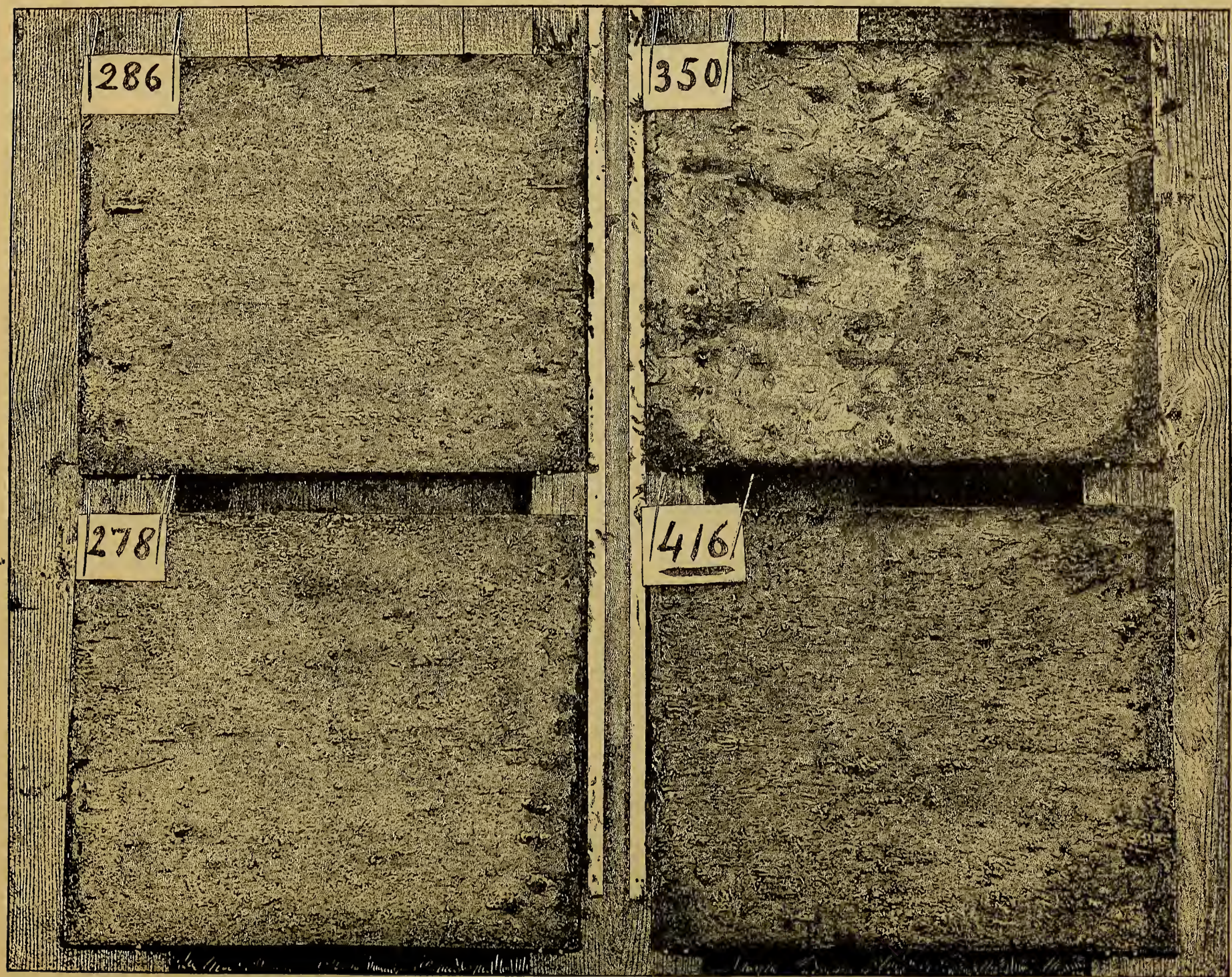

342
326
334
416

206
302
222
310


30
14
22
6


78
102
70
86

246
374
254
382


286
278
350
416

414
410
415
412

Plate 41.

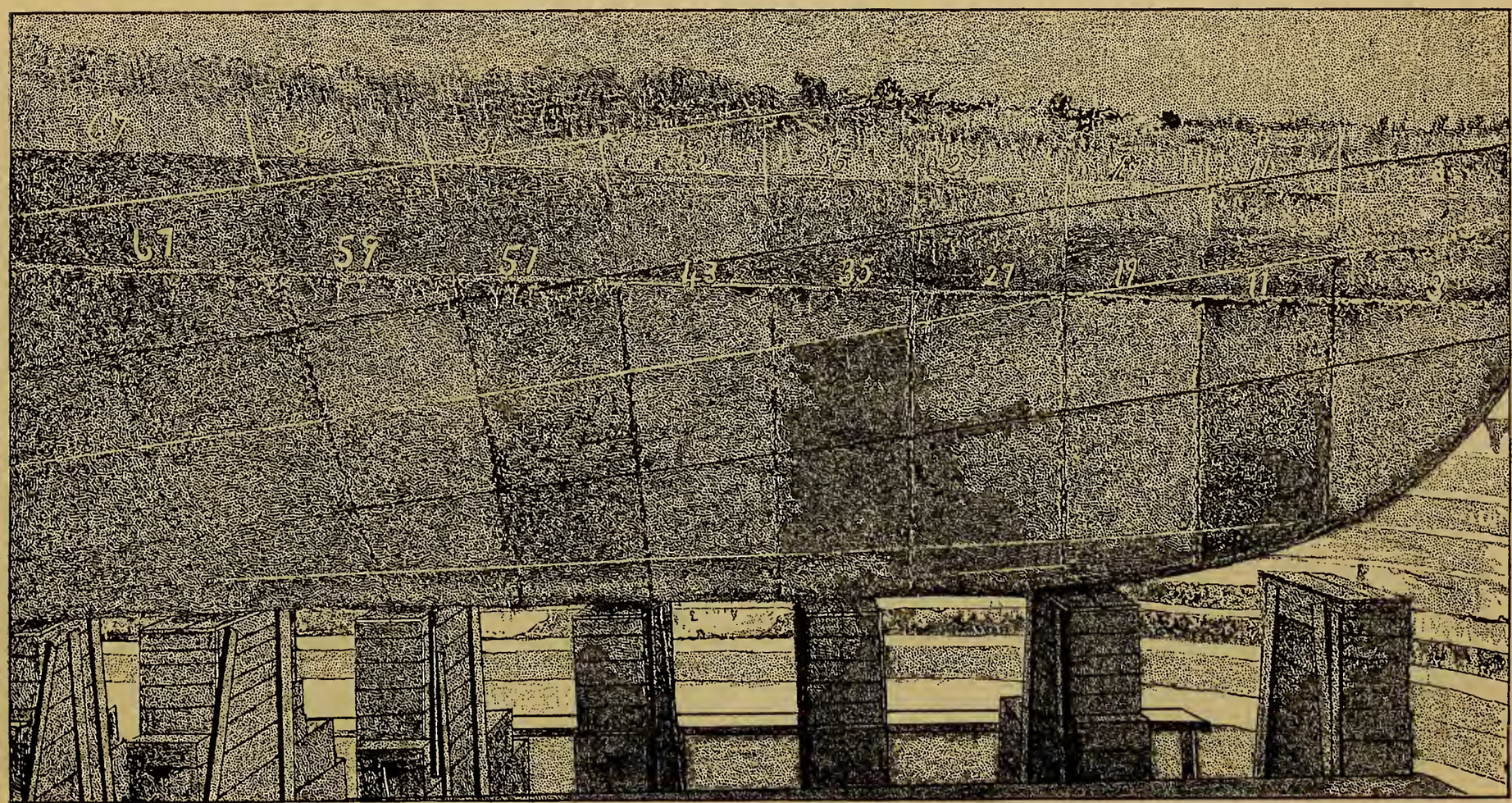


Plate 42.

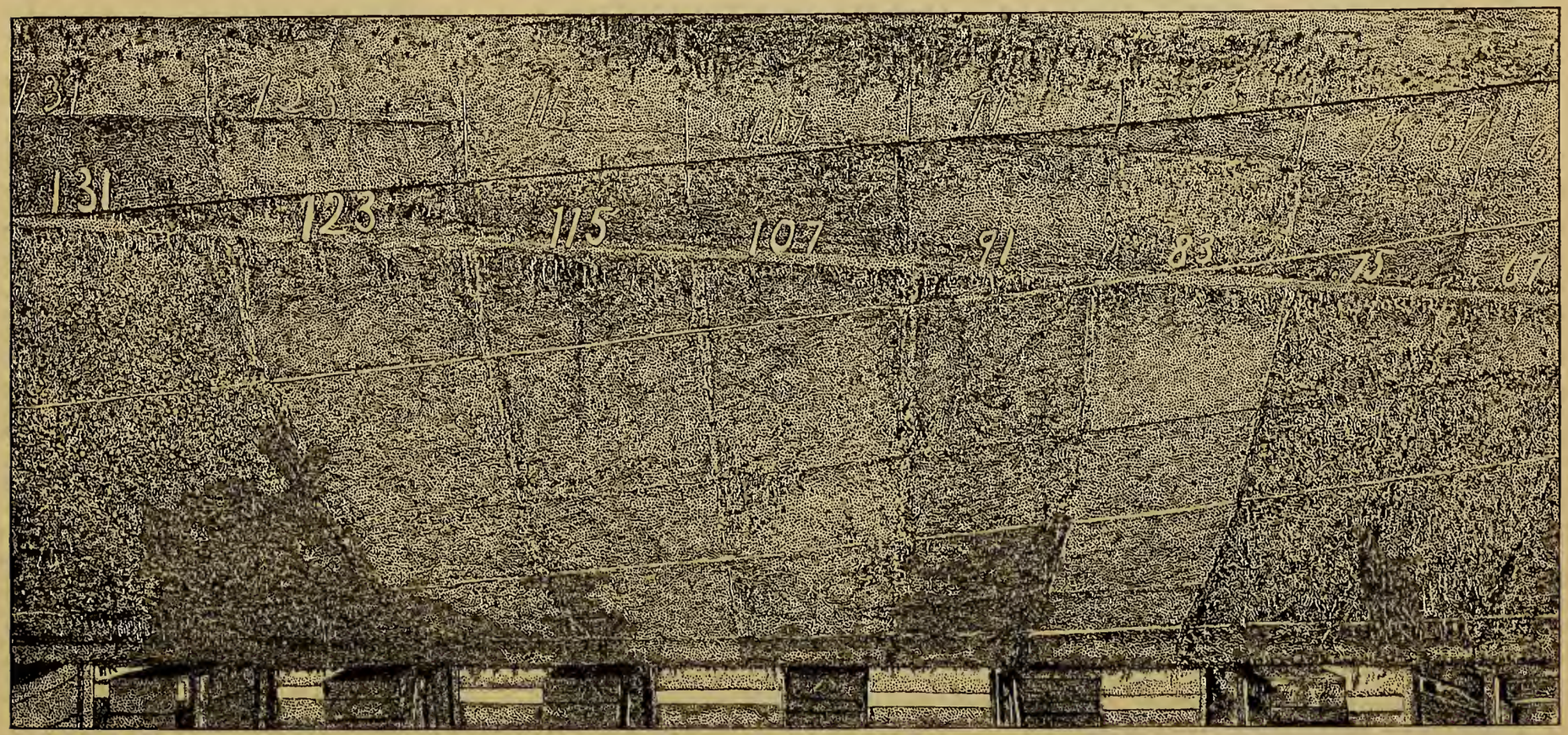
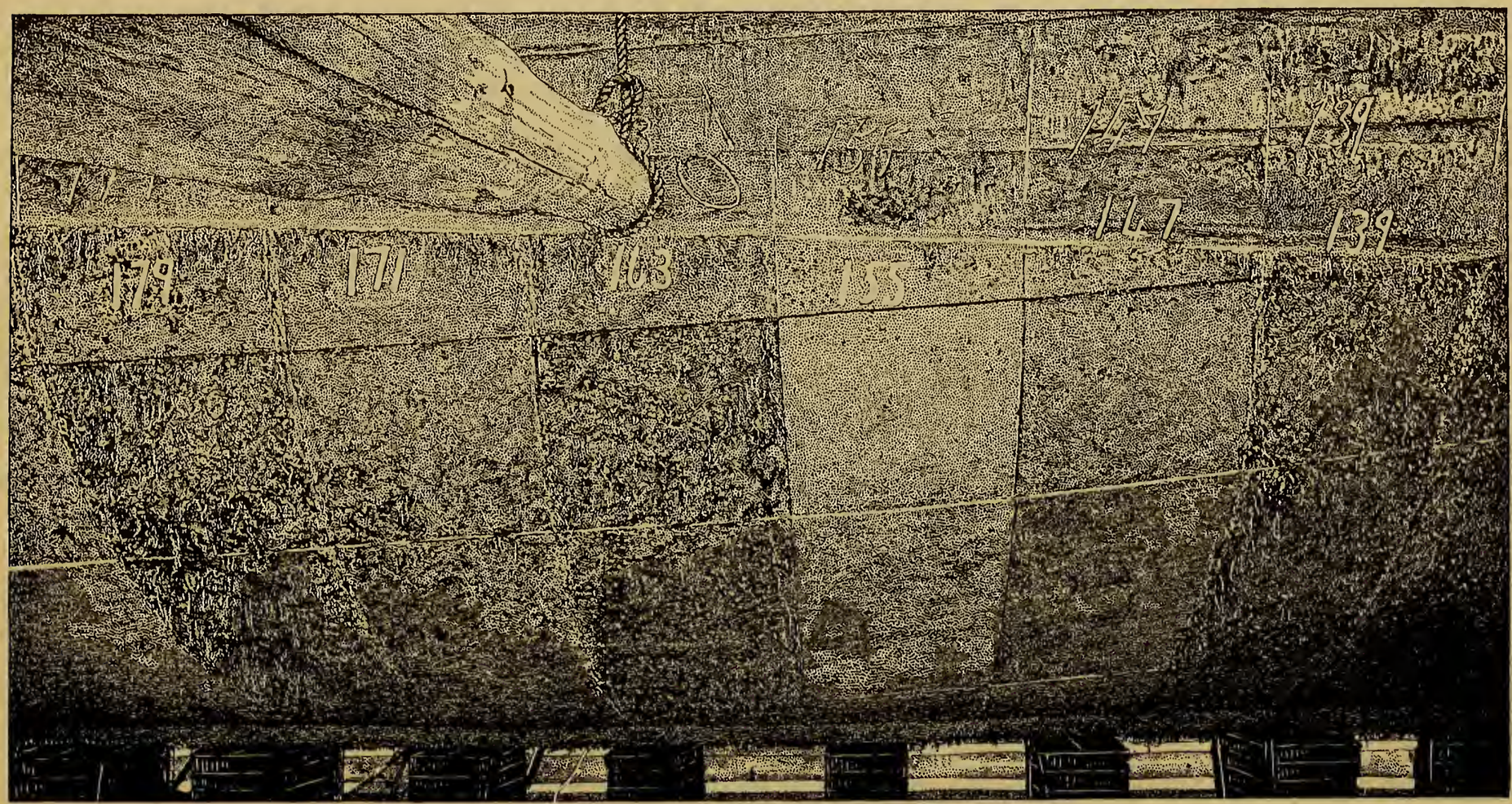


Plate 43.



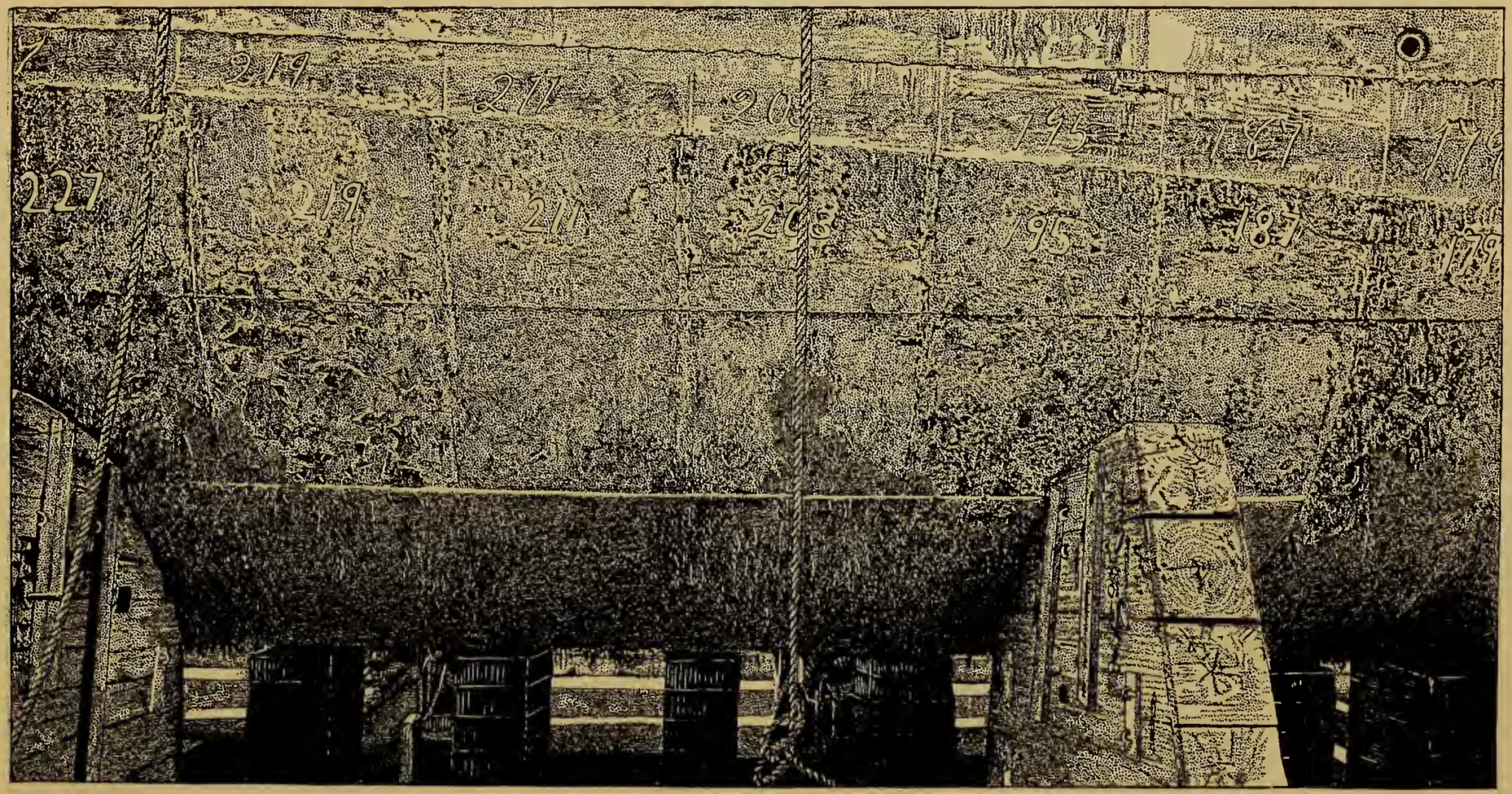

227
219
211
208
195
187

Plate 45.

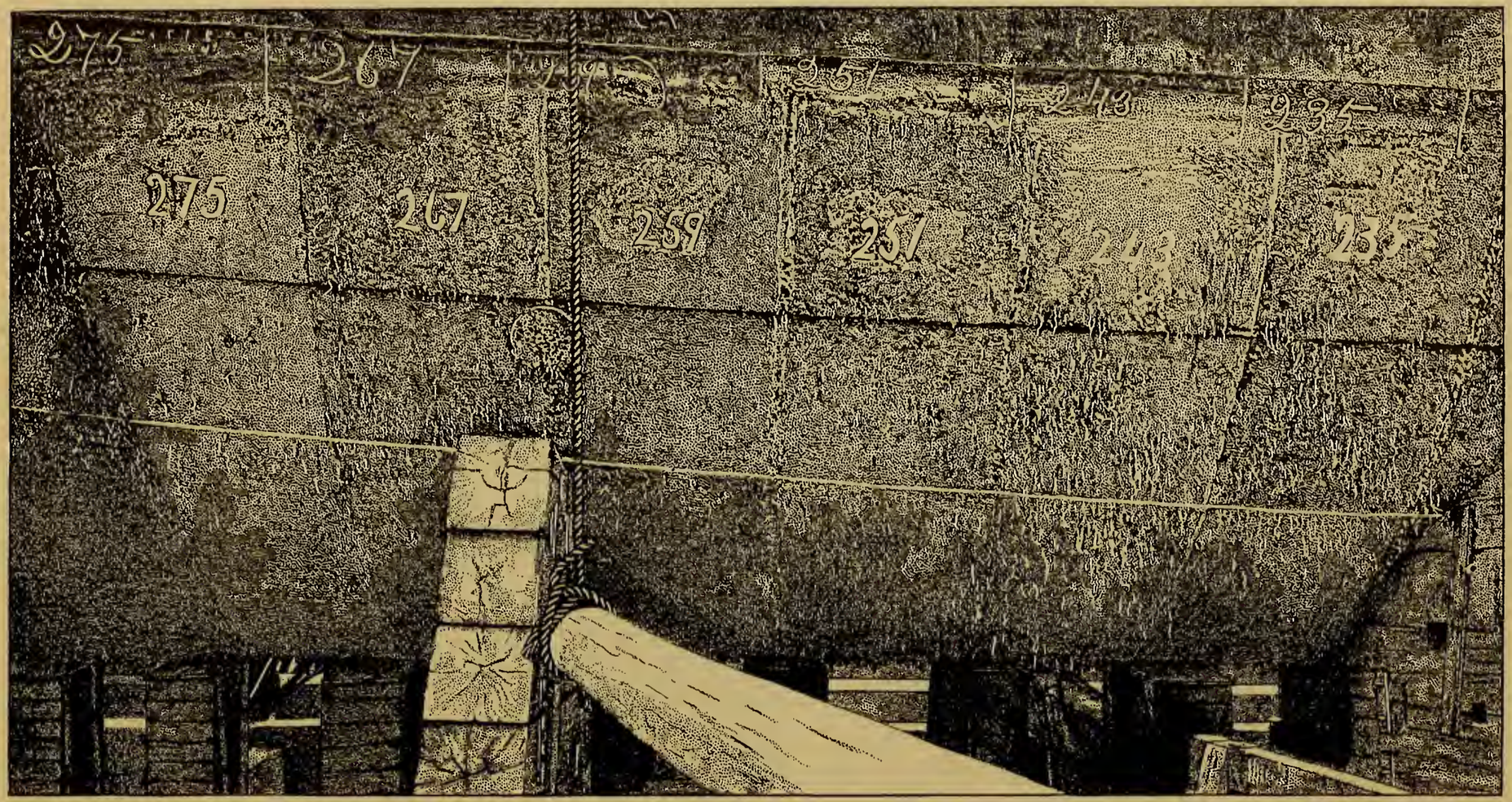


Plate 46.

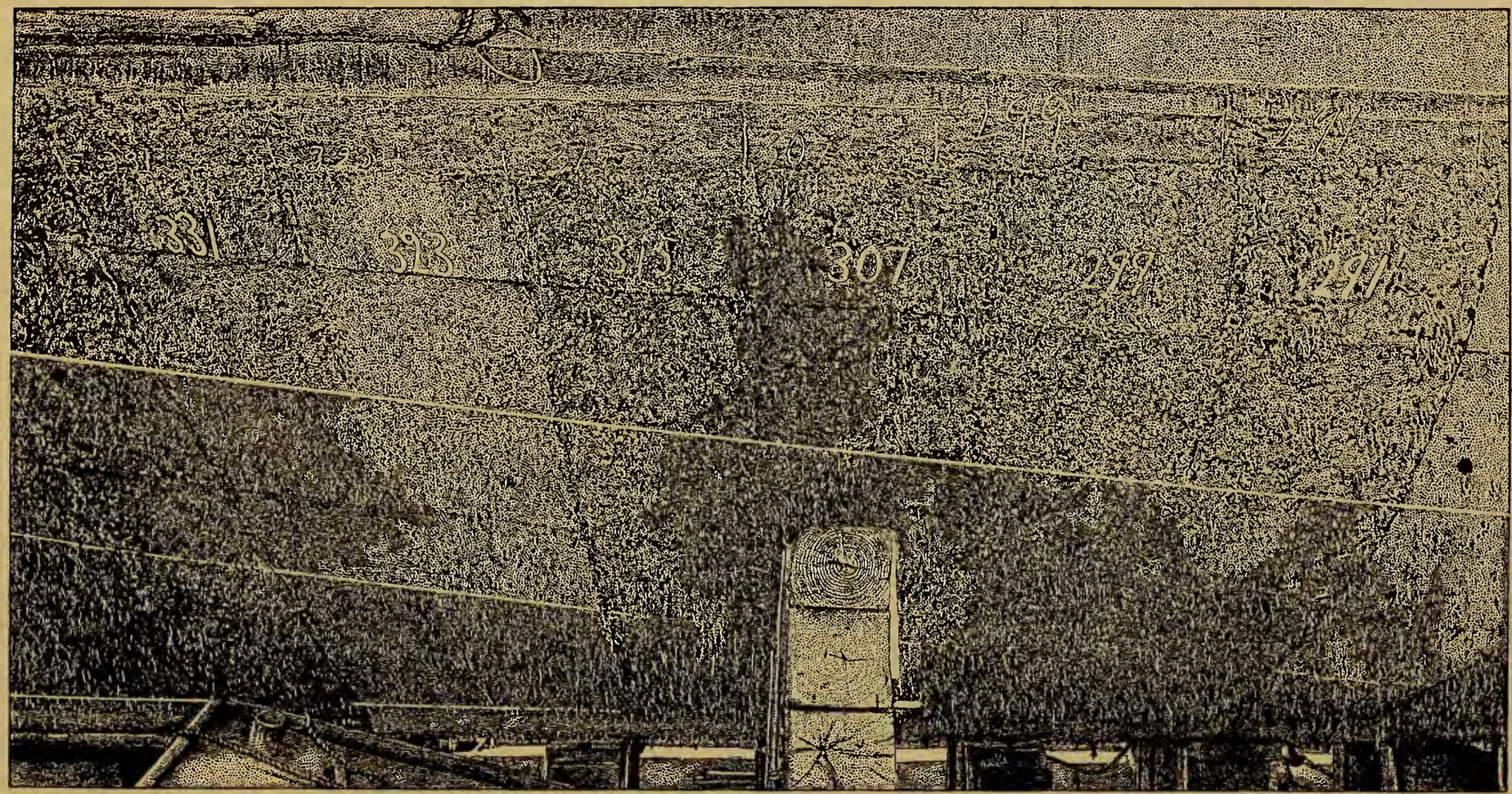


Plate 47.

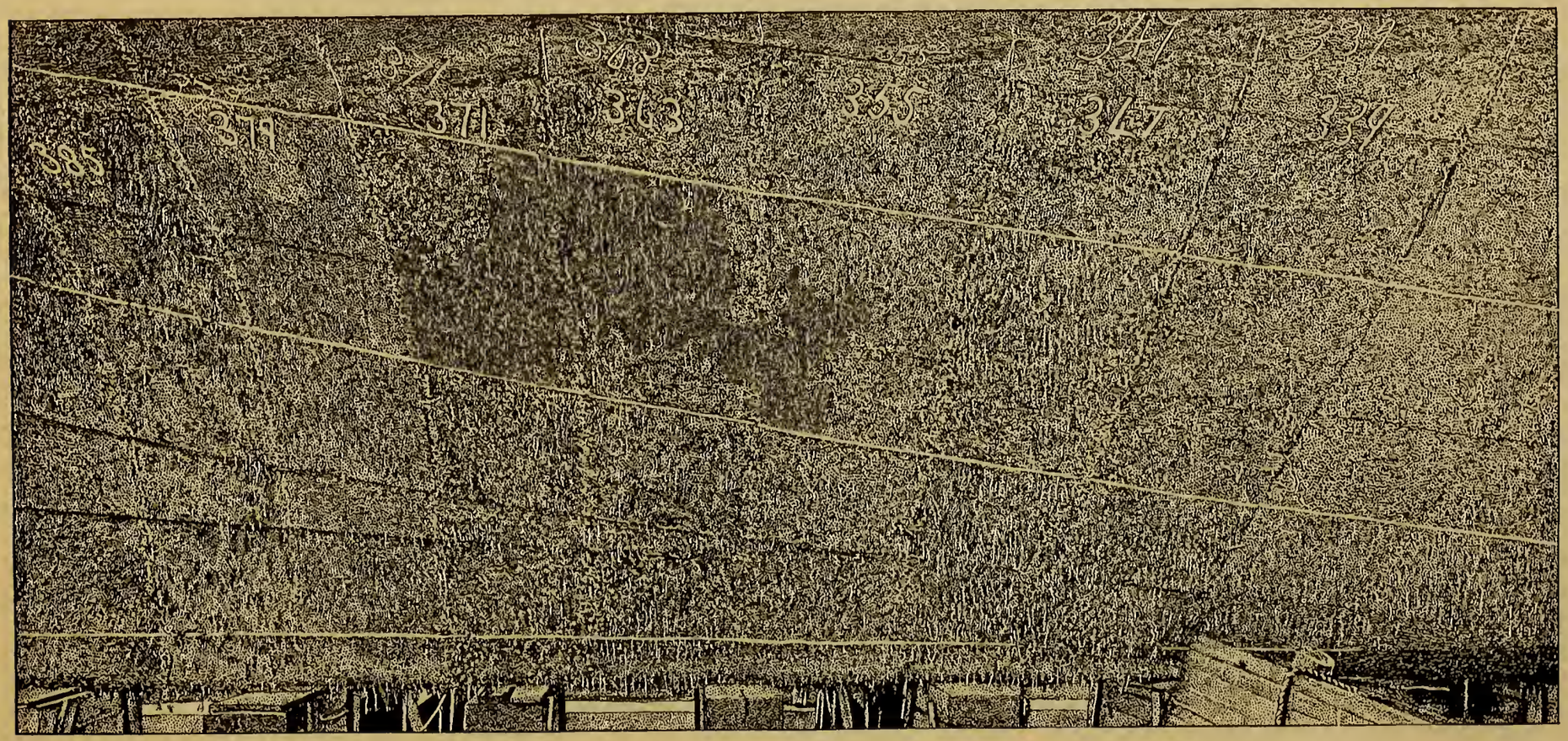
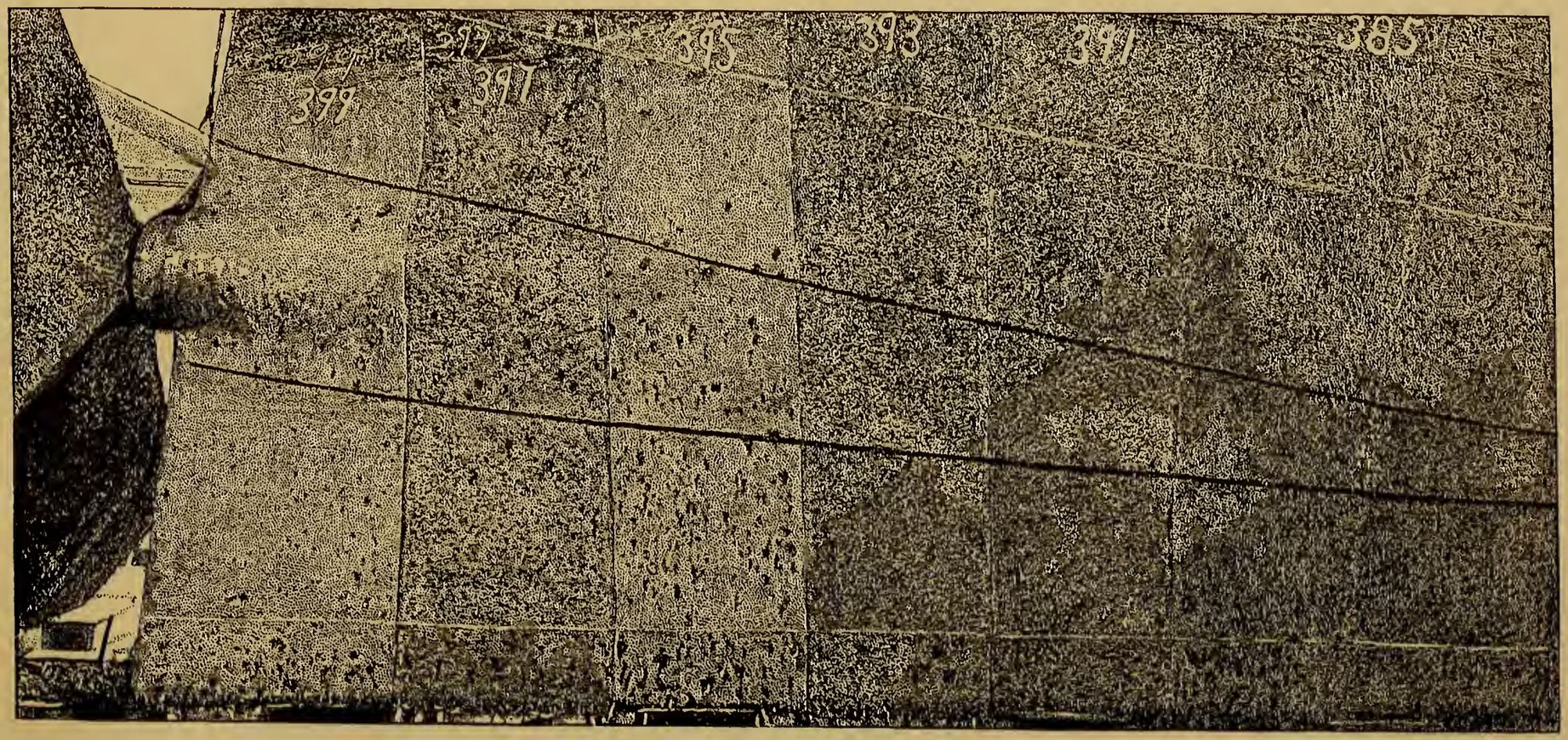
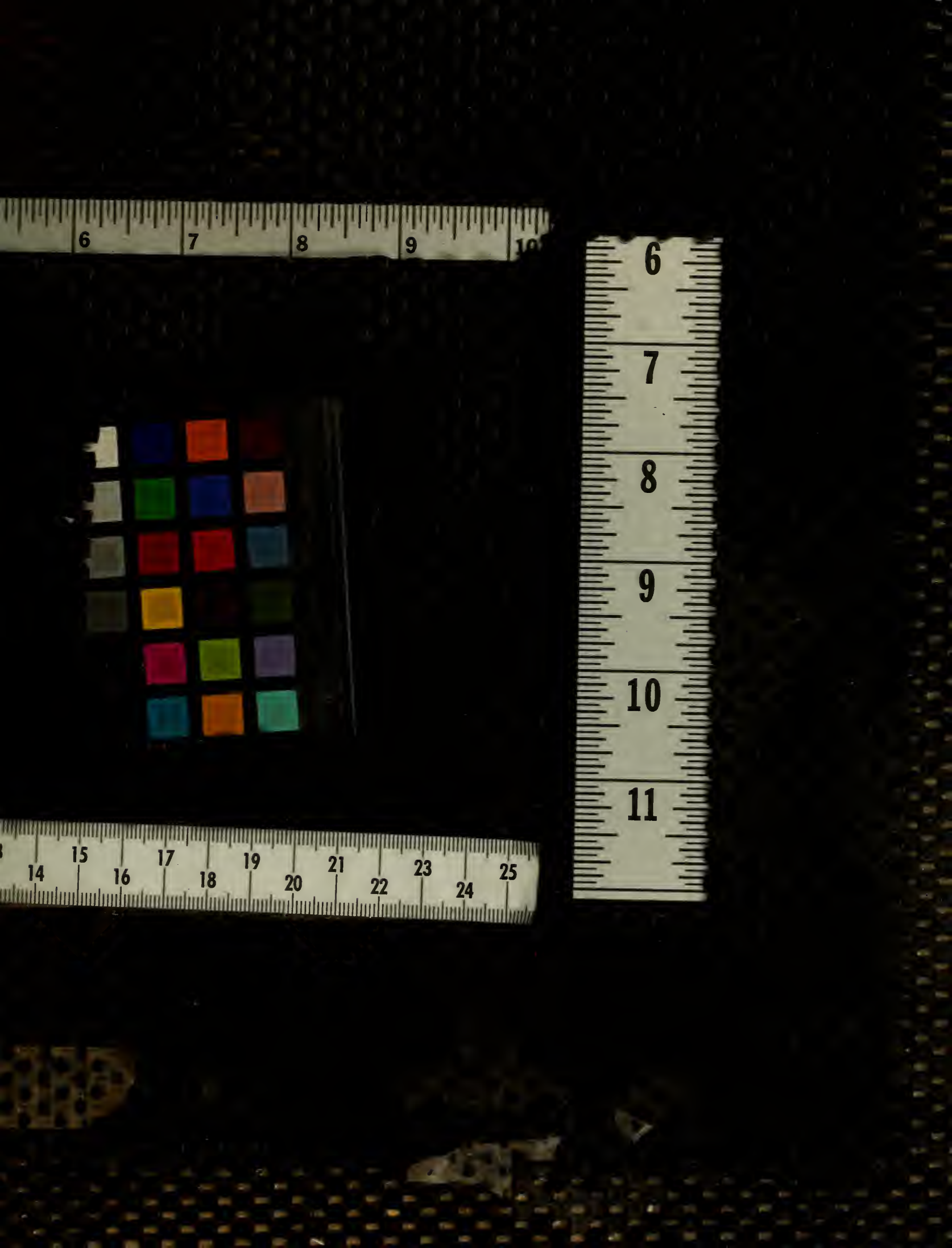


Plate 48.



LE Ja '11